



HOW *to* MAKE MONEY IN THE PRINTING BUSINESS

By PAUL NATHAN



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UNITED STATES OF AMERICA.

HOW TO MAKE MONEY IN THE PRINTING BUSINESS.

A BOOK FOR MASTER PRINTERS
WHO REALIZE THAT THERE IS A PRACTICAL SIDE TO THE
ART, AND WHO DESIRE TO KNOW THE SUREST
METHODS OF MAKING PROFITS.

BY
PAUL NATHAN
OF THE
LOTUS PRESS.

WITH CONTRIBUTIONS FROM MANY OF THE LEADING PRINTERS
OF THE UNITED STATES.

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PREFACE.

There are in existence about two thousand different books pertaining to printing and typography, and perhaps as many more that are partly devoted to these subjects. Of this large number, only a bare half dozen treat of the business management of a printing office, and its successful operation for the purpose of yielding that profit for which men do business. In the half dozen there is not a total of a hundred pages directed toward the theme of the present work. It seems to me that this is sufficient excuse for bringing this book before the printing trade. For years the cry has gone up from the followers of Guttenberg that there is no money in the printing business, that competition takes all the margin out of the work, and that the cost for renewal of plants has eaten up the profits.

Personally, I have found that the printing business yielded satisfactory profits, as much as one could expect in a strictly competitive business, and in every city there are men who have made money in this trade; yet the diversity of opinion as to profitable methods, and the confusion of ideas as to the cost of producing printing, has led me to the conclusion that there is imperative need of an exchange of views for the better education of the trade. There are plenty of books on the history of the art, and a large number exhibiting ornamental printing and the methods of its production, but the practical financial side has been very much neglected. In

PREFACE.

this book, I have gathered together the impressions of some of the leading minds in the trade as to the requisites to the profitable management of the printery. With the benefit of such competent advice, I feel that it is not presumptuous to undertake to lay down the business rules on which a printing office must be managed in order to make money for its proprietors.

In that excellent work, Theodore L. De Vinne's "Printers' Price List," I took my first lessons in conducting a printery for profit. Owing to the fact that conditions and machinery have changed very largely, the figures in his book are no longer applicable, and it has long been out of print. Other works relating to the cost of printing have been laid aside for similar reasons. It has been deemed best to include in this book very few figures, and to avoid the quotation of prices, but to endeavor to lay down the foundation principles on which prices should be based. In this way the book may serve as a guide for many years; as the essentials to making a profit do not change as quickly as do the prices.

Where so little has been written upon a subject, it is impossible for an author to borrow much from the experience of those who have gone before. I have been obliged to lay out this work on original lines, and have combined with my own experience the wisdom of representative men in the trade. In the hope that these pages will be read with both mental and financial profit by master printers, and that the thoughts herein spread forth may live to add to the general prosperity of the craft, I subscribe myself,

Yours sincerely,

PAUL NATHAN.

TO

Theodore Low De Vinne,
THE DEAN OF AMERICAN PRINTERS,

WHO GAVE ME MY FIRST LESSONS
IN THE MAKING OF PRICES,

THIS BOOK IS APPRECIATIVELY DEDICATED.

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CHAPTER I.

THE PRINTER AS A BUSINESS MAN.

THE printer who embarks in business is supposed to have learned his trade thoroughly, and as a rule he is a superior workman, who by industry and economy has been able to save enough to become an employer. He is seldom a business man, because his training has been in an entirely different direction. The young printer who thinks that he can run a printing office of his own successfully because he knows how to do good printing has a great deal to learn, and quite as much to unlearn. The education of the composing room and of the pressroom is not the sort of education that fits a man for dealing with customers, making prices, buying stock and machinery, contesting with shrewd people and schemers, and looking after the scores of things that are as important as the actual printing that is done. On the contrary, such education as the printer receives in the printery often largely unfits him for taking charge of the business end, and this is a prominent reason why so many master printers fail to make money and simply worry along, living from hand to mouth, scrambling to meet notes, never attaining a competency, and perhaps eventually going back to the case or to the press.

A false notion as to prices and profits usually rests in the mind of the printer who is thinking of starting in business. He has time and again seen the prices given

on work that he has done, and noted that the proprietor charged, say \$12, for work that he, the workman, performed for \$4 or \$5, and he has assumed that almost all the difference went into the proprietor's pocket, and that if he started a printery he could take such work at a dollar or two less, and yet earn one-half more than as an employee. With printing enough to keep five or six men busy he has calculated that he can pocket the wages of two men or more. This would-be proprietor seldom figures on dull times, but always sees the rosy side, and thinks that his presses will never be idle, or his customers fail to pay their bills. This is not at all an overdrawn case. It is the most usual condition of mind and knowledge of the young men who start in the printing business for themselves. It is a dangerous state of mind because it is an ignorant one that wots not of its ignorance.

Printers are above the average in intelligence and education, but they are commonly poor business men. If beginners in business had any proper conception of their ignorance of business methods, of what utter children they are in the business world, the danger would not be so great, for they would pitch in and learn the conditions before they embarked in business. If a printer were going to open a dry goods store or a grocery, a shoe store or a clothing house, he would understand that he must know something of business management or expect to fail; but, when he goes into the printing business, because he knows the trade, he naturally thinks that he knows it all, when he is often but a babbling ignoramus in business matters and commercial negotiations. It is a hard thing to make others realize that they know little or nothing of a particular thing, yet the successful men in the printing trade know that only men who are first

made conscious of their ignorance as to business methods can be taught. It is a hard road to success, and there is a deal to be learned, and even the leaders in successful business are always finding that some fellow has got ahead of them and developed new means of progress that they had failed to recognize. How necessary it is, then, for the novice in the printing business to equip himself with knowledge gleaned from the experience of those who have gone before!

Let none be offended at the general assumption that beginners in the printing business, and many who are not beginners, are ignorant. It is not that they are uneducated or uninformed generally, or that they are deficient in the mechanical part of printing, but simply that they are unfamiliar with what are popularly termed business methods.

The dry goods man, the grocer, the hatter, etc., each and all sell articles that they do not make, and they charge the public from twenty-five to fifty per cent. advance upon the goods they handle, and more often fifty than twenty-five. That percentage, whatever it is, must pay all the expenses, losses, salary and profit. It is a simple proposition, concerning which the storekeeper cannot readily be misled. If one of these merchants buys, say, \$10,000 worth of stock in a year, incurs \$3,000 of expenses, sells \$15,000 worth, and has \$1,000 in goods on hand as dead stock, he has simply earned a salary of \$2,000, and his profit will be what he can realize on the dead stock. He has no difficulty in knowing the cost price of his goods, and little in calculating the percentage he must add. To achieve the result figured out above he has to collect a dollar for every sixty cents worth of goods sold, and, as some customers do not pay, and as some

goods have to be sold close to catch custom, he has been obliged to sell most of his goods at just double the cost price. It is broadly true, in a great many lines of business, that the selling price must be double the manufacturing cost to yield an adequate return to the merchant.

The printer in business knows these facts in a general way, but he is too often led astray by supposing that when he pays a workman \$5 for the time on a job and collects \$10 from the customer, that he is doing as well as the storekeeper. This is a complete fallacy, and the lack of appreciation of this difference has sent many and many a printer into bankruptcy. When the workman's time on a job foots up \$5, it will be found that the contingent expenses, which are not paid for directly, usually average more than another \$5, so that the cost to the printer-proprietor is apt to be about \$11, and the selling price, on the same basis as the storekeeper does business, requires to be somewhere between \$15 and \$20. This is gone into fully and demonstrated in the chapter on "The Cost of Producing Printing," and the reader who requires proof of the assertion will find plenty of it there to satisfy him.

To learn how to be a good business man requires of the printer that he first learn exactly what it costs him to turn out his work. He must then see to it that he secures interest on his capital, a salary, a margin for contingencies, and a final profit above all; otherwise he might better be out of business, and in employment. He must also learn all the nice methods of handling men and getting them to pay a fair price, as well as how to buy his own goods at bottom figures. Salesmen who deal with printers have been known to say that they are the easiest class of men to overcharge; that they are prone to believe

everything that they are told, and to fail to see the tricks of the men who are unloading upon them with no thought other than to get a price for the goods; that they seldom discount their bills, even when there is one per cent. a month (or 12 per cent. a year) in so doing, which is perhaps a higher percentage than they make on the printing that they do.

The printer going into business must learn that there are many sharpers in the world, and he must learn to distinguish them or he will fall by the way. He must learn that his principal business is no longer to print a good job and admire it, but to buy close and manage without waste, and sell for all that he can get. And right here there is room for a sermon: How many printers we see spending half their time figuring how cheaply they can print this or that job, whereas their true object in business is not to see how cheaply they can do work, but how much they can get for the work they do. The way to charge is to make the price as high as a customer will pay without being driven away, and not to make it as low as can be afforded. That is business; that is what we are all in business for—to make money—to gather in a profit from the labor of others, greater than we can earn by our own labor. The best business man is the one who gets all that he honestly can, and the poor business man is the one who always works too cheaply. There is no sentiment about doing business for a profit. If one is charitably inclined he can give away the money he makes in business, but it is not good business to give the profits to customers.

When the printer becomes a proprietor he requires to forget, in a measure, that he is a printer, and to bear ever before him the idea that he is a business man, whose

duty as such is to sell printing at a profitable figure. By being a good printer he will be able the more easily to sell at a top price; but if a man in the printing business had to choose between being a good printer and a good business man he had better choose the latter a hundred and one times out of a hundred. As a business man his place is no longer at the case or over the cylinder. He should hire others and make a profit on their work—that is business; that is a legitimate way of making money, and he who has not learned it is not yet qualified as a business man.

A few printers have the advantage of growing up in business under the guidance of some successful master-printer who has kept up with the times, and who has been willing to impart his business knowledge to those under him. This is often the case with sons, who are educated to perpetuate a large business, and who come naturally by the training passed on to them by an experienced parent; but the rank and file of printers have to pick up their business training by dear experience. There is no school of instruction in managing the business end of a printing office. It is often a matter of complaint in the trade that so little chance is afforded to apprentices to learn the trade properly, but the opportunities for learning how to manage the business office and to reap a profit from printing are less common than those of the apprentice who strives to master the mechanical details of the art.

The beginner in the printing business, and the man who has been in it for some years and failed to make a profit, both suffer from the lack of an adviser. There is no fount of general information to which either can go and gather the knowledge of how to make money out of

the printing office. The people who have learned it do not go about advising young competitors how to succeed, and if such do occasionally drop a word of good, seasonable advice to a beginner, ten to one the young man in business suspects that it is a pointer given to mislead him, and goes contrary to the advice. This is usually the case when an established printer remonstrates with a newcomer in the field as to cutting prices. The newcomer is sure to think that the established printer is simply worked up because he is losing trade to him, and so the youngster in business laughs in his sleeve, and goes on cutting rates to his own ruin and the damage of the trade in his vicinity. It is natural that a beginner in business should think that the way to get work is to lower the prices; but the men who have been there know that the way to get customers worth having is to keep up both the quality and the price.

The first thing, then, that a printer contemplating going into business should study is the business methods of successful concerns. If he does not know them he is sure to lose money; if he appreciates his lack of such knowledge he will find a way to acquire it, and it is cheaper to learn before an investment is made in type and presses than it is to learn afterwards by the dear road of experience. Happy is the man who can thrive on the experience, and pass the mistakes, of others. The rules and principles that guide experienced men of business are too often dearly bought. I recently heard a good printer and good business man say, "I did thousands of dollars worth of printing before I really knew what it cost to produce it, and I ought to have received ten to twenty per cent. more for the work that I did in those years, and I might have had it, had I known what I now know."

This book is an endeavor to gather together and formulate the underlying principles which should govern the printer as a business man. In its compilation the views of various successful printers have been more or less embodied, and the means that they have employed to erect and maintain their business structures have been studied and reduced to manuscript. From the complicated nature of the case it is impossible to form set rules for the guidance of the printer in all exigencies of business. Every matter that comes before him for consideration has some points of difference from every other instance, and must be decided according to the best light and knowledge that he has at the time. In such a work we can deal with principles only, and he who applies the principles most accurately is likely to become the most successful business printer.

A printer may be a good business man in some respects and yet seriously lacking in others, and that too without realizing where he is weak. I have seen men who knew how to buy paper and presses to the very best advantage, securing the last item of discount and most favorable terms, but who were always at the mercy of a customer who gave the bluff that so-and-so would do a particular job for so much less money. Then again I have seen a printer who was a past master in the art of talking to customers, and who knew how to satisfy all and get the highest prices for his work, but who did not know enough to protect himself against the drummer, but invariably paid the top price going, frequently for an inferior article. Men of this sort do well in partnership, where the talents of each can be utilized, but the man who finds himself weak in some business essential should cultivate improvement in that particular ; and the man

who thinks himself strong in all points should watch himself to learn whether he has not weaknesses of which other shrewd business men will take advantage.

The art of business is more than a knowledge of trade—it involves a knowledge of men, and the ability to lead them to do what you desire. It is the business of a printer to see that his customers should have lots of good orders for printing, and to accomplish this he must be able to show them how and where it will pay to increase an order. The printer should ever be urging on the customer that if a thing is worth doing at all it is worth doing well, and that such and such things would improve the job in hand. To impress customers, and get them to take advice, involves a wide knowledge of human nature, and the peculiar gifts of a salesman. The business printer who finds that he has not these in his make-up will hire a man or take in a partner who has, and devote his own time to pushing other branches of the business.

It is hoped that the printer who is already a good business man will read this book and add to and compare with his own ripe experience, while the printer who is not yet a business man will receive hints which will cause him to study business methods, and the art of so managing a printery that the receipts shall always exceed the outgo.

Tyros in the printing business are often deceived as to their success during the first few years of a career. Because the presses are busy and the cash comes and goes, they think that they are doing a good rushing business; but as the years roll on and the presses become ancient and the type worn, and no balance has been accumulated in the bank to renew the material, they realize that they have been dupes to circumstances instead

of successful business men. One of the most prosperous printers whom I ever met has several times expressed himself to this effect : "I never could see the use of doing printing for anybody unless I was quite sure that I would get more for it than I paid out, and I never trusted a man or firm beyond a certain sum, no matter how high they were rated, as I do not furnish capital for others to carry on business. The enforcement of these rules turns away a large part of the work that is offered me, but I do not think that I have ever lost any money by insisting upon them."

It is well to get down to basic principles once in a while, and strip an argument of all its confusing detail. In the present case all the discussion as to what makes a printer a good business man or a poor one may be summed up in this short sentence: The printer who is a good business man is he who has mastered the art of getting considerably more for his work than he pays for its production. Never forget this—from a purely business standpoint all else is trivial—charge a profitable price and see that you get the money.

CHAPTER II.

STARTING AN OFFICE.

THE first point to be considered in starting a job printing office is whether there is a prospect of securing a desirable run of custom. If there is no trade in sight there is no call for the starting of a printery; if the work in the field is already in the hands of competent printers who are giving satisfaction, it is a doubtful matter whether it can be secured at a profitable rate. When an apparently good opening is found, it should be canvassed with the greatest care. Suppose, for instance, that a printer is disposed to open a printing office in a city of 25,000 inhabitants, where there are already two job offices and five newspaper offices doing job work. He should investigate, first, how much printing there is to give out in the city, and then whether it is done mostly by the local offices or whether a considerable percentage goes out of town. The amount being approximately known, he must consider how much of that work he would have to secure to make a satisfactory business; then his chances for getting that share require to be thoroughly investigated. What are the facilities and the character of the offices already in the field? Are they up to date, and are the proprietors hustlers? If so, they may be able to hold their work against all comers.

In choosing a city for starting an office, the wise printer will not decide because his liking is toward a place

socially or for non-business reasons, when other places offer better openings. He should choose a city that has established manufactories, and that is growing; one in which the merchants are good advertisers, and in which there are societies and organizations requiring printing. If he does not take these things into account he may find later that it is impossible to develop trade beyond a very limited amount. The printer who would succeed in business must make sure that he starts rightly, else his subsequent efforts may be largely fruitless.

A proper field may often be selected for a printery by reason of some offer or opportunity for controlling large work. If a printer knows that he can get the work of a large concern as a nucleus, this may be a sufficient inducement to start in. It is very doubtful whether it is ever wise to start a printing office without advance assurance of considerable work at remunerative prices; for if one cannot get the promise of work before starting, how can one expect to do much better after putting in a plant?

It is almost always a safe thing to start a job printing plant in connection with a good daily or weekly newspaper in a live town or city, for the paper brings custom to the job department. For this reason it is always a doubtful matter whether a job office unconnected with a newspaper can be made to pay in a small city or town. If such an office has to depend on the work of merchants, churches, societies, politicians, etc., it will be found that these all drift toward the newspaper office, because they want notices in the paper. But where there are manufactories, or where there is book publishing, the newspaper does not carry an influence; in fact, the job printer who is divorced from a newspaper probably has the best chance of commanding the work. In cities

above 25,000 it is almost always possible for some one firm to build up a large job printing business aside from a newspaper; below 10,000 it is almost always best to be tied to a newspaper, and between the two populations circumstances must determine the choice.

When a printer has fully made up his mind that he is in the right town, and when he has definite assurances of a reasonable amount of work at starting, and a fair prospect of developing more, he must next consider whether he has the requisite capital to make a proper start. It is a mistake to begin with too little money, for interest payments, combined with inadequate facilities, will eat up all the profits and afford very limited chances of success. Remember that we are considering the starting of an office that must be a success, that must be a money-earner, and not the case of a printer who must start an office, and trust to chance for the result. I doubt whether it is ever desirable for a printer to start business with less than half enough capital to pay for his plant. A young man with \$1,000 may start a \$1,500 plant, pay half cash, and bank \$250 to run on until the receipts will carry him, and if he gets the work, and is economical, he can pay off his mortgage and later add to his plant. But the young man with only \$500, who tries to do the same thing, can pay only one-fourth down on his plant, and the dealers will charge him a large advance before they will gamble on him, and take the chances of selling the machinery and type. Then he will have only enough money left to pay his freight, a month's rent, and a few minor expenses, and by the time his first job goes on press he is out of cash, and before the first ninety days roll around, when he has to pay his first note, he realizes that he is in a hole. Such a man puts his neck deliberately

into the noose of trouble, and the chances are ten to one that he will never get it out without being choked. How much better, then, for him to wait another two years, when the savings from his wages would enable him to start on a \$1,000 basis.

I do not wish to be understood as advocating that \$1,000 is the proper sum with which to start a \$1,500 office, but simply that this is my idea of the limit of debt that may be safely contracted. I think that probably two times out of three the printer with \$1,000 had better wait until he gets more money before starting. In large cities it is folly for a printer to begin business with \$1,000 or even \$2,000. These amounts may be sufficient in smaller places, but in a great city the small printer is so handicapped by the superior facilities of the big offices that he usually fails to earn as much as the men in his employ. He is only able to exist at all by hiring cheap help, having feeders do the work of pressmen, and two-thirders do the composition, and these things entail a chain of ills which no man would voluntarily and knowingly encounter.

A printer with \$2,000 or \$3,000, and an aching to go into business in a great city, had better take stock in a large concern, where his investment will secure him a foremanship with a good salary, and then hustle for the establishment, and try to work his way up to a larger holding and greater salary. Or he may make a success in an office of his own if he can induce outside investors to back his small capital with \$5,000 to \$10,000, thus giving him a chance to buy the best class of machinery, even if the quantity is limited. This involves a knowledge of finance and business that does not come to a printer fresh from the case, and should not be undertaken except by a man who is confident that his business training is

sufficient to enable him to cope with the emergencies that will arise. In accepting outside capital he must take care that he is not saddled with an untrained and useless partner, who is eating up a salary that he does not earn. The safe rule is not to accept outside capital if offered with hampering restrictions. Money can be obtained by many competitors at six per cent., and if you pay more for it you are at a disadvantage, and liable to go to the wall.

With enough work in sight, and sufficient money to make a good start, the printer next requires to consider a location. The beginner is all too apt to look for a cheap rental. Here it should be remembered that cheap things are seldom good. While a job printer does not require to be as conspicuously located as a dry goods man, he does require to be in as good or a better place than any other printer in his town. Location always influences trade, and has much to do with securing first orders, which are everything to the man starting a printing office. Stick to the business centre, and avoid too many stairs. If possible secure a place where you can have a good sign privilege, and use it for all it is worth. Do not try to save too much on rental, for it is poor economy. You must be where people can see you without going out of their way, if you are to have the trade. Remember, too, that you cannot afford to be where there is a poor light, as it wastes the time of workmen. Neither can you afford to go into a shaky building, where there are other tenants who pay more rent than you, for as sure as you do, the jar and vibration of your presses will make trouble that may be expensive for you. The printer who neglects this warning will almost always live to be sorry for it. If you can get your presses on a solid floor, away from those

whom they may annoy, with good light and a central locality, you can afford to pay a rental that otherwise might seem high.

Probably volumes have been printed on the choice of material for an office, and volumes more might be published without throwing much more light on the subject, for the choice must be different in every case, and must suit the circumstances. Everything offered the printer by the manufacturers and dealers has some utility, and may be used to advantage somewhere, but the type and presses suited to some classes of work are sometimes wholly useless in a printery of a different character. We have all seen tables of what to buy in starting a \$1,000 office or a \$2,000 office, and lists of type that some one thought best suited to general job work. I regard such lists as practically useless, for the choice must be dependent on the work that is to be handled and the pocketbook that pays the bill.

A word of warning is in place here against the purchase of second-hand material. It is almost always the dearest in the long run. A printer starting with inadequate capital often thinks it better to buy one hundred fonts of second-hand type than to spend the same money for fifty fonts of new letter. He forgets that the shortage of sorts in the second-hand stuff usually renders it incapable of setting up much more than half of the amount which can be composed from new, properly assorted type, while the difference in appearance is apt to be fatal to the production of fine work. The purchase of second-hand presses may not affect the quality of the work produced, as the good workman will turn out nice work on almost any press, but it will involve the loss of time, that largest item of expense in the printing business, and place the printer at

a disadvantage in figuring against offices supplied with up-to-date machinery.

There are exceptions to all rules, and just so there are times when it is advisable to buy at second hand. Real bargains are sometimes offered, and when you can get just what your office stands in need of for less than the market price because the article is blighted as second-hand, it may be well to buy it. But the safe rule is—when in doubt, always buy the newest and latest material or machinery.

The selection of the first lot of machinery and type will depend upon the character of the work that is contracted for or that it is reasonably certain will be demanded. The little job presses are money-earners for small work, but money-losers if used on book work or for long runs. The pony cylinder is valuable for a great deal of miscellaneous commercial work, but when it comes to publications and long runs of large sheets there is nothing like the modern two-revolution or perfecter for economy. Just so with paper cutters : for small stock in a small office a light machine may answer every purpose, but where the cutter is kept busy all day long, the bigger and stronger it is the better.

It is hardly necessary in this age to tell the printer to buy job type in series, and that few fonts and large ones will go further than the same value in small fonts. Every good printer ought to know these facts, and this book is written on the assumption that the readers are already capable printers who know the trade. Yet perhaps this chapter would be incomplete without a repetition of these well-known truths. The printer should buy sparingly at the outset, reserving a part of his money or his credit for the purchase of additions that may be demanded by special

work coming in. When type is bought especially for work of which the order is in the printer's hands, he knows that it will see some service, whereas that bought wholly in advance must be purchased on conjecture.

Do not try to get along without power. No printer can afford to kick a press nowadays when a horse-power can be bought for from \$50 to \$100 a year. Electric power is very convenient for the printer, as it costs nothing when idle. The motors are sold very cheaply, and are not hard to keep in order. In the country, steam power is often preferred because of its adaptability to heating. In the large office, where the horse-power runs up into the fifties or hundreds, it is often best to have a complete steam-power plant, which may be used either directly, or to drive a dynamo for delivering electricity to motors. The gas engine is very useful where power is required only at certain hours, as it consumes nothing when not in use.

For further details and comments on material, see the chapters on "The Composing Room" and "The Press-room."

It is well to fit up the business office attractively from the very start. If you have good office furniture, a neat carpet, and comfortable surroundings, these serve to impress customers with the idea that the establishment is reliable and substantial, whereas a mean or cheap-looking office, or an old desk set in a corner for use as an office, impresses buyers of printing with the notion that it is a cheap place, whence high-class printing can not be expected. Just as a job of printing must have all the refinements essential to good work to produce the proper effect, just so the business office requires to be fitted up attractively to draw custom and assist in the securing of good prices.

The careful printer will never take any unnecessary chances in starting an office. Of course any new business involves a certain amount of risk, but the chances of loss will be very large for those who neglect the simple rules laid down as the result of experience and the exercise of common sense. It is unwise to force a start when circumstances will not lend themselves to make the conditions good. If there is a little uncertainty about getting all the needed money, or if the work expected is only half promised, or if a period of panic and hard times has just set in, or if proper rooms cannot be rented, it is best to wait, for any of these things can be bettered in time ; but if a start is made with any such handicaps, a continual menace overhangs the whole structure. When the printer is satisfied that the conditions for starting are as good as can be fairly expected, and the whole enterprise commends itself to his judgment, he should then have the courage of his convictions and go ahead energetically, remembering that it is well not to do things by halves, and that in order to print at a profit he must have good tools and labor-saving devices. The printer who starts thus, barring accidents and unforeseeable and unsurmountable obstacles, has a good chance to succeed.

By doing business in a fair manner, always demanding a fair profit, and never delivering a poor job or permitting delays ; by holding out no false promises, but meeting all obligations promptly, the printer who can do good work has a very good chance of attaining a competency in business. There are many printers who argue that job work is a poor business, that it is crowded to death, and that there is no money in it, and never will be. But these are men who did not start right, and who never managed to get right, so as to acquire the habits that

lead to success. There is money in the top ranks of printerdom, just as much as in the top ranks of any trade, and plenty of profitable business for those who have the push, pluck, perseverance and probity essential to reaching the upper levels.

CHAPTER III.

WHAT CLASS OF CUSTOMERS TO SEEK.

WHILE it is perhaps the general impression that the customer chooses his printer, yet it is equally true that the successful printer chooses his own customers. Just as the superior workman may select his own employer, because any and all are glad to have him, so the superior master printer may take his pick of the best-paying customers in his territory, if he be an adept in handling them.

Customers may be divided into several classes:

1. Those customers who do not care what they pay. To this class belong officers of certain institutions, societies, departments of government, etc. The money for the printing they order does not come out of their pockets, and they know that they will never be called upon for a strict accounting of its expenditure. It is the duty of the printer who caters to them to make things pleasant, save them all possible trouble, cultivate their personal friendship, give them perfect work, prompt delivery and all the conveniences and extras desired, as they willingly pay for such service. These are a good, easy class of customers, of which almost every printer has one or more on his books. Few printers fail to cater to them, though I have known some who did not know enough to render themselves agreeable to this class. A failure to be specially polite and attentive to

such may easily result in the loss of their custom, which is sure to be wanted by others.

2. Customers who prefer to pay a high price, if this insures them a better article. All such require to be handled with much care. They are often notional, and not always easy to recognize at first meeting. When such a customer is once found, he can usually be retained by giving him the best work, and occasionally calling his attention to the fact that "We charge you a little more than others, but we take extra pains with everything." This class of customers should be cultivated and developed. There are many brainy men among them, men who handle money by the thousands, and whose business ventures are often so dependent on the effect of a good piece of printing that they cannot afford to take chances of mediocrity, much less inferiority. They prefer to go to the printer who has a reputation.

3. Customers who do not object to paying the highest market price if they have a practical guarantee of the best service. To this class belong the most substantial and desirable customers in the trade. Men and firms that carry their enterprises to a successful issue, that push and prosper, largely contribute to make up this class. It is foolish to cut prices too closely for such customers. They want only the best work, and if a way can be shown to better it, they will pay the extra cost; but they are hard-headed enough to insist that they get the very best. They do not take any stock in the fancy prices that sometimes affect class 2; they want the best, and want it on a square business basis. They are the kind of customers of which the printer stands most in need, and the best efforts of every printer should be bent towards getting their work. The first two classes

are limited in numbers, and it is more or less a matter of luck how many of them are secured, but in this class there is always room for development—always more customers who can be brought into it. The wise printer will always be devising ways and means for educating average customers into those of this class. They are the main-stays of the large houses, and furnish the bulk of the patronage to the most successful printeries.

4. Customers who must have good printing, but who will pay for it only when they have to. Every printer finds himself obliged to deal more or less with this class. It is difficult to make money out of them, yet it can be done by careful and judicious dealing. The printer who works for such must be absolutely inflexible as to his terms and prices; must insist on short credits and stop work when payments are slow; must afford no loopholes for deductions and return charges; must demand a cash profit on all he does for them, and take no chances on the evasion of payment. When it becomes a doubtful matter with the printer whether he can hold his own and get a profit out of such a customer, it is best to drop him. Let him go every time when he degenerates into the class below.

5. Customers who make it a rule to protest about errors, shortages, delays, etc., always claiming a rebate, and refusing to pay the full price charged. This class should be let severely alone, and the printer who has the good of the trade at heart will pass around among competitors the names of firms whose trade is objectionable on this account. Cash with the order is the only consideration that should induce any one to touch the work of such people, as otherwise experience with them will develop only profitless vexation. They are

sure to keep the printer poor if they get the chance, and even the poorest and least wise printer will sooner or later show them the door.

6. Customers who are satisfied with medium quality, and who demand a very close price. There are hosts of such; probably they are the most numerous class of customers. A careful printer can make wages out of them, and no more. It is impossible to keep up a reputation for fine work, while retaining many patrons of this sort. They will not pay for those extra touches that distinguish fine work from the ordinary kind. The most successful printers ignore this class. I have known the head of an eminent house to instruct the men who waited on his customers to tell such people, "We are very busy; why don't you go down to Blank's? I guess that he will accommodate you." Blank thinks that the eminent printer is singularly kind, and hustles sixteen hours a day, working for this class of people and making a bare living. Is it worth while to go into the printing business for such a result? There might be more money, and certainly there would not be more work, in running an all-night restaurant, or something of that sort. Much time may be wasted by the printer in estimating for this class. A good way to avoid it is to inquire of every stranger asking figures on a large job, what offices are estimating on the work, and if it appears that he is seeking a number of estimates from second-class offices he is then surely a No. 6 customer, whose trade is of very doubtful value.

7. Customers who think that they are shrewd, and who never will give an order unless they receive numerous discounts and a big fall from the first price. The chief difficulty with such customers lies in recognizing

their character at first sight. With judgment they may often be handled to a profit.

8. Customers who do not care what the quality of work may be so long as it is cheap. A very undesirable class, working for whom tends to ruin a printer's reputation for ability to do fine work.

9. Customers who can be dealt with only on a C. O. D. basis. This class is made up of schemers, indigents and unreliable people generally. All printers must expect to have to do with them, and sometimes there is profit enough in their work, provided great care is exercised in securing deposits in advance, and getting the balance of the cash before the work leaves the printing office. Some of this class are deliberate swindlers, and such should be dropped when recognized, as it does not pay to do business with such people on any terms; but the simply unreliable may be made to yield the printer a tolerable portion of his yearly profits by the simple course of never trusting them. It is never worth while to run after such custom, but when it comes, and will pay a fair price, and can be protected, it should be accepted. The danger then lies only with the printer himself, who must be sure that he will not, in a moment of weakness, trust such an one without a deposit, or allow him to take away any portion of his work while there remains an unpaid balance. With this class of customer the printer can afford to be very independent.

10. Customers who never mean to pay at all. The difficulty that the printer has with this class is in detecting them. They are of all sorts, appearances and characters. The most dangerous are those who wear good clothes, understand business methods, and who come in as total strangers, paying spot cash for a few

jobs and then seek to take away a large job on the strength of the business acquaintance thus established. There is only one safeguard against such people, and that is in the establishment of an inviolable rule never to give credit until you have thoroughly investigated a customer.

The class of customers to be specially sought, it will be understood from the above, are those who have learned that it pays to have good printing, and that they must allow the printer a reasonable profit to secure prompt, reliable and generally superior service. The wise printer will make a list of all such in his field, and devote his energies to getting a chance at their work. When some printer has failed to give satisfaction to such a customer, then is the chance for a newcomer. A reputation for fine work is worth a great deal in such a case, and a reputation for cheap work is almost prohibitive. This is why the printer who aims to be at the top of the industry cannot afford to do cheap work even at a present profit. Its shortcomings are noticed, and his reputation suffers, and his chances of getting other good-paying, high-quality work are lessened. Keep up a reputation and good customers will drift toward you; forget that you have a reputation, and everyone else will also forget it.

Always be prepared for sudden and large demands upon your facilities, remembering that the emergency of a customer is the opportunity to demonstrate your efficiency. Every good printer is liable to have unexpected calls for work because of accidents or unforeseen circumstances. A lawyer finds that he must have a case printed on twenty-four hours notice. If you are ready, and do the work well and on time, you may have a

good customer. A manufacturer discovers a reason why a price list must be issued at once, and the last one having been delayed by some other printer, concludes to give you a trial. By being always ready and willing to work day or night to help a customer out of a dilemma, you gain not only his permanent trade, but that of others, to whom he may mention your promptness.

It has been an axiom with many successful firms that it does not pay to do business with "cheap" people, because the good custom lost more than offsets the small profit that can be made from the cheap class. It is the business of the printer to seek always the trade of the substantial firms in his community, and to seek them by means of general excellence and prompt service rather than by the cutting of prices. The notion that the most practical way to get work is to cut the price is erroneous in that it leads only to the getting of work that is not specially desirable. The way to get work worth having is to get up a reputation for fine printing with satisfaction guaranteed. That will surely, even if slowly, bring custom from the sort of people whose trade is worth having.

Another reason why it is a mistake to cater to a cheap class of work, is that if it is turned away it usually goes to some less wise competitor, and keeps him busy and not in condition to satisfactorily execute the better and more profitable work when it comes along. In other words, it pays to let competitors have the cheap work, if they are foolish enough to take it. The printer who is building up a trade may find times when he feels obliged to take some moderately cheap work, through force of circumstances, but he should never solicit any but the higher grades of work, that tend to build up a substantial business.

An old-time printer, with more experience than dollars, once said to me: "I have wasted many of the best years of my life working for 'no-account' people. My books tell the story of my career for thirty years, and I have been at some pains to study them, running back through the accounts of this class of customers, and I find that they have always been a drag upon me. I made a little money out of half of them, but more than lost it on the other half. It has been only the custom of the better class that has kept the sheriff out of my place. If I had known enough years ago to refuse all dealings with people who wanted cheap work, I should have made twice as much money, worn out only a quarter as much material, had a great deal easier time, and been about ten years younger in health and spirits than I am. But my experience has come a little too late in life to be of much use to me. I am now a sort of has-been, and so much cheap work has gone out of my place that nobody thinks of bringing me fine work, and I can only peg along for the few good customers that I happen to have until my time comes to step out. But if I could pass along my experience to some energetic young fellow, it would earn him good money in the printing business. It is a good enough business in itself, but many of us do not learn to run our offices to a profit until we get antiquated."

Avoid cheap customers and cheap work, seeking only the better class of printing, and the most substantial firms as customers, and with fair management in other respects you can hardly fail of success; but if you neglect this rule, even if you keep all other good rules, you will never become conspicuous for your success in the trade.

CHAPTER IV.

HOW TO DEVELOP BUSINESS.

THE printer who has made a good start in business, or who has purchased an established plant, requires to understand how to develop his trade, since to stand still in these times, when so many are going ahead, is to fall behind in the race for precedence. One essential to success in the printing business is a good location. By this I mean more than a central position, or a place in the thick of the business portion of a city—I mean a location that is good from every point of view. For instance, that printer in a large city who is located in the near vicinity of half a dozen printers who cut prices is but poorly situated as compared with another who has his office near to large and successful printeries, whose proprietors are recognized as upholders of prices, and whose reputation enables them to charge and receive more for their work than others. The former is too often forced to get what he can in the general scramble to find work for the presses ; the latter occasionally secures some of the overflow of work from his good neighbors, and at profitable rates, and all his chances for getting customers who will pay good prices are better for his proximity, which suggests that he is in a good class. Another point of view regarding location is that it should be convenient to the most desirable class of customers rather than convenient to everybody. Of course both

are desirable, but the former is rather to be chosen, as in the line of developing a good class of substantial customers. Judgment must determine what is and what is not a good location, as no set rules can be formulated ; but the printer who bears these points in mind will be better fitted to form a correct judgment than he who neglects such considerations.

Advertising is of prime importance in the development of a printing business. Because they do so much advertising for others printers ought to be well able to use advertising for the advancement of their own business ; yet the majority of them neglect this means of development. The subject of advertising is so large that it is reserved for a separate chapter.

Soliciting is the next most-used method of developing business. It has been discouraged by many large concerns on the ground that printing is a ten per cent. business, and that this margin will not afford paying for a solicitor. I am inclined to disagree with the view, and to hold that a judicious amount of soliciting is advantageous to the average printing office. It can be overdone, and few printeries can afford to keep a good solicitor at work all the time. As a result good solicitors of printing are scarce, and proprietors require to have in their employ an office man, as a bookkeeper or the like, who has the gift of soliciting, and to send him out occasionally where the work is likely to be found. Whatever some may say to the contrary, depend upon it that all large establishments do practice more or less soliciting. They may not do it systematically in a regular way, and may have no employed drummers, but when they know that a large and desirable job is to be given out, one of the proprietors or somebody from the house

is sent out to assist its coming their way ; or if it is a question of estimate a few strings are pulled in proper quarters, and a good argument is advanced to show why the work should come to a certain office even if the price should be deemed a little high.

It is the duty of every printer to keep himself informed of all the large work that is being given out in his vicinity, and to study and improve any chances he may have for influencing it. In this way he can usually get a share of the large orders that are in the general market. Every manufacturer who has a large amount of printing, every firm that advertises largely, every public institution, and in fact every desirable concern that has a considerable amount of work to give out within a printer's field, constitutes a possibility in a business way, and should be regularly considered and periodically interviewed, no matter what may seem to be the obstacles in the way of getting the work. To find out all the work that is worth having and to "go for it" should be a regular part of the work of every progressive printer, whether he does it by the ordinary way of solicitation, or in some other manner that commends itself to him.

The getting acquainted with active business men is an important factor in developing trade in printing. This may be accomplished by joining the local board of trade, or by organizing one if the place is without. A live board of trade always insures contact with good men, and the printer who meets them, and by his conduct shows that he is up to the times and a thorough business man, is sure to win business. In every place there are social organizations frequented by business men, the printer should learn what these are and join

them. Whether it is a Free Mason's lodge, a church, a golf club or a political organization, if there are plenty of men who have the giving out of printing it is the wise thing for the printer to be one of them, and keep "in the swim." For thus he has more chances than the printers who do not follow these things. Of course it is not desirable to belong to so many societies or clubs that the dues eat up all the printer's spare change, and the duties of membership use up all his spare time. This sort of thing should be done moderately but thoroughly; and if the printer by mistake has gone into organizations where there is no apparent business advantage he can quietly drop out again. In most cities I regard a board of trade, a building association, or a business men's club as the best field for exploitation of this sort. But here as in everything else the printer's own judgment must be the final court of decision as to what is best under the immediate circumstances.

The working among politicians for political printing, or printing given out through political influence, is a business in itself, usually necessitating more or less use of means that cannot well be advocated in print. The more honorable of those who secure political printing get it as a return for work done for a political party, but this book is hardly the place for instruction in machine politics, and the printer who wants to know how to get city or county printing had best go to a successful local politician and take lessons. Those who want to cater to that sort of work are welcome to do so: the writer never had any great desire for it.

Good printing, accuracy and promptness are three means of developing business that can hardly fail of accomplishing results. It does not pay in the long run

to slight work. If a mistake has been made in estimating, and a job is taken too low, it is unwise for the printer to try and save himself by slighting the job. By living up to his agreement with the customer, he prevents a poor job from going out of his office and injuring his reputation. By pinching the paper, skimping the count, rushing the proof and slighting the make-ready, he takes chances of having the job thrown back on his hands, or of being considered dishonest. It is better to suffer the loss bravely, frankly telling the customer that there has been a mistake, and that it cost so much more to turn out the job than the contract price. The customer is then apt to be willing to give the printer opportunity to make it up on other work, and in some instances he will go down in his pocket and pay more than the contract price. Anyway, he is retained as a customer, whereas the plan of taking the prospective loss out of the job drives away the customer. The sure road to success lies in giving good printing first, last, and all the time.

Accuracy is essential to the building up of a printing trade. Careless proof-reading, careless counting, carelessness in anything will drive away good customers in time. Only by unceasing watchfulness can accuracy be assured. A system of checks and revisions should be placed over all work to insure that errors do not creep in. Extraordinary precautions are always necessary. If ordinary proof-reading is depended upon, sooner or later a job will be printed with a cut upside down, turned by a pressman in underlaying, and never noticed because there was no system calling for a final revision of the work on press; or it may be that a job will be printed on the wrong stock because the proof-reader is not

called upon to pay any attention to such matters. An efficient job ticket system, and rigid rules as to reading and revision are incumbent in all offices where there is a desire to maintain a reputation for accuracy.

Never promise a job sooner than you can execute it, and never fail to deliver when promised. This is an easy rule to make and a hard one to follow, but the printer who will be at the trouble and pains to keep it is sure in time to reap a rich reward. The printer who is known to be always on time need never fear of losing his work to the price-cutters. Merchants who have had experience with delayed printing usually know that it is worth ten per cent. more than the "get-it-when-you-can" kind. Promptness is one of the most essential requisites of development. Though the printer may have every other key to success, if he have not promptness he will never achieve any prominence. The printer who is prompt may be weak in many other respects, and yet his ability to be always on time will bring him trade and make him a valuable reputation.

It has often been said that a satisfied customer is the best sort of an advertisement, and the proverb emphasizes a great truth. To build up a trade, one must give satisfaction to present customers, and as they tell others trade will expand and develop. Just as the housekeeper likes good measure from her grocer, so the customer likes a full count, superior stock, and various little accommodations, and the wise printer will give all these and see to it that his margin of profit is large enough to afford the minor extras, so that he may treat his customers liberally, and avoid a reputation for meanness in small things.

The printer who is known as a good and careful workman, who delivers orders when promised, has achieved a reputation that of itself will develop his business. With correct management in other respects he may expect to obtain in time a large and valuable business, which cannot be taken from him, and that can only be lost by continued negligence and disregard of the principles on which it was founded. Push, honesty, accuracy and ability, if persistently employed will carry almost any printing concern to the top of the art.

CHAPTER V.

WRITING ADVERTISING MATTER, ETC., FOR CUSTOMERS.

THE intelligent job printer will never permit himself to forget that printing is allied to advertising, and that almost all of the printing that he does depends in some way upon its success as an advertisement or as an advertising medium. If it prove profitable from the advertising standpoint, there is more work for the printer. It therefore behooves printers to become students of advertising, that they may be able to advise and assist their patrons in the production of printing that will be profitable.

The average customer for printing is not as expert a writer as the average printer ; he has not the knowledge of detail and arrangement of matter that comes naturally to the man of types ; he is rarely an expert in advertising. Often he is a man of good business ideas who needs to be helped in the detail of working out his thoughts so that the printing may be profitable. A few printers are alive to these facts, and in their establishments, as in the Lotus Press, have inaugurated a regular system of assisting customers in the literary part of the work, taking their ideas and working them out in a manner that will make the printing doubly attractive.

The printer who can do nothing but print well is a good enough man for the production of reprint work,

but the printer who writes and edits copy is the man to whom new work should be given. The public is finding this out in the cities where the latter class of printers are to be found, and trade is drifting their way. The printer who has never given attention to this side of the trade is advised to subscribe for a number of the papers now published in the interest of advertising and to read and study them thoroughly. He will then have a fund of catchy ideas to draw upon, and from which he may make suggestions to patrons wherever he sees the chance to work them in appropriately. Suppose it is simply the proprietor of a meat and fish market who wants to get out a circular to send to his customers. He thinks he wants a thousand small dodgers, and writes out a list of beef, pork, veal, mutton, fish, oysters and clams, etc., and heads it "Notice." Such a circular will be of little value to him, and the printer-advertiser will say: "Why don't you head this 'Don't worry about Oysters!'" That sounds catchy. Then go on to say, 'Dinner begins with dainty oysters,' and explain how very particular you are about delivering half-shells promptly and attractively at the minute they are wanted; call attention to the quality of your meats and the excellence of your service. Then, if I were you, instead of getting up a plain, cheap circular, that most people will throw away before reading, get up something more attractive. Ten of these will be read to one of the other, and it will be much more apt to bring you trade." By talking this way the printer often gets a five dollar job instead of a two dollar one, and it is dollars to doughnuts that the meat man is back again inside of three months for another of those business-bringing circulars. After that the printer's competitors cannot touch him, for he has

learned that he can buy of one what he cannot buy from others.

Suppose that a manufacturer who wants to issue a booklet comes in to consult the printer. It soon appears that he is not ready with his pen and that he has to be instructed at every turn. The printer volunteers a few suggestions. The manufacturer is pleased, cheerfully pays for compiling and arranging, and thus the order is clinched and a customer made who will remain with the printer who furnishes literary assistance with his printing. But for this ability to help with the copy the manufacturer would probably have figured with half a dozen printers, and given it to some one at a very close price, which would have yielded a profit to nobody.

Some newspapers become very valuable properties because they make money for their advertising patrons who cannot be weaned away from them. It is equally possible for some printeries to build up their trade by making it a point to see that the printing pays the customer. In all large cities there are now advertising experts who furnish booklets and that class of matter to merchants, just as they write advertisements. The advertising expert can often control the printing of the work he writes and designs. He is only human if he demands a percentage from the printer to whom he turns over his work. That printer who is looking for general commercial work is not up to the times if he does not take a hint from this and equip himself to render this service to his customers.

The writing of advertising matter, or of any sort of matter, for customers, is a thing not generally practiced by printers, yet there can be no question about its

advantage to the printer. Those few who have adopted it have proved that it is a winner. Doubtless the principal reason why it has not been generally adopted by printers is that most of them have felt a lack of ability to write and edit for their customers. Such a feeling should not restrain any printer from making the attempt. You can learn to do this as well as you have learned to do other new things to advance your business. If fully satisfied that you cannot develop any capacity of this sort, you have still the privilege of hiring a man who can write taking matter for your customers.

Times have changed in this matter of preparing copy. Twenty-eight years ago a leading printer of New York, writing of the receiving of copy, said : "Persuade your customer to furnish his own copy, written in ink. Avoid writing it for him. If it must be done by you, notify him distinctly that he is responsible for its supposed accuracy as to names, dates, places and figures." The object of this injunction was to guard against work being thrown back on the printer's hands because of errors in the copy that the customer might charge to him. While carefulness is just as essential now as it was then, it has been learned that there are advantages in helping the customer with the copy that more than offset the dangers. At the same time, the printer who prepares or edits copy for a customer must make the customer responsible for the job as finally written, and it is always proper for him to request the customer's "O. K." on copy before going ahead. If he does not safeguard himself by making it very plain to the customer that he cannot be held for any errors in copy, after the copy is approved by the customer, he is liable to trouble and occasional loss. If the customer is

forewarned of this he usually scans the copy more closely, and the chances of error, through the unfamiliarity of the printer-writer with the customer's business, are reduced.

Within a few years some large newspapers have employed advertisement editors, whose sole business is to see that advertisements are well written. If it is observed that any particular advertisers do not use their space to good advantage, it is the business of the advertisement editor to call on them and make suggestions. The reason for the existence of such a functionary is obvious, for, if advertisements do not pay, they are sooner or later discontinued, and it is a part of the newspaper publisher's business to see that his patrons make money, if he would get a share of it. Just so with the job printer. If he will see to it that such of his customers as have no natural talent for preparing their own copy, are assisted, so that their printing will bring them business, he will retain their trade and increase it. He will also gain trade from those customers who may know how to prepare copy, but who are too busy, and who want to have some one else write as well as print, some one who can be relied upon to take ideas in the rough, and carry them out to the completion of a good tasteful, trade-stirring piece of printing. Such are willing to pay for work on the copy as well as for work on the printing. When you show a customer how to make his printing profitable, he likes to spend money with you, and he will keep on doing it as long as your work brings him results. Do not make the mistake of throwing in without charge, your work as a writer for customers. Small assistance ought not to be charged for specifically, but, when a considerable amount of literary work or

designing is involved, it is best to make a specific charge for the same, else the lumping of it with the price for printing may cause unfavorable comparisons with the prices of others that do not include any writing, editing, compiling or arranging.

The ability to draw or sketch is also worth a great deal to the printer who prepares copy or arranges it for a customer. By designing and drafting out in pencil the headings and titles, and any ornate work connected with the job, so as to give the customer a fair idea in advance of what it is proposed to furnish him, you are more certain of giving satisfaction and supplying his wants. It is always best to supply a design or dummy with the copy furnished a customer. Then he is able to grasp the whole thing and to judge whether it will attain his object. If a pleasing effect is produced at the first attempt, it is apt to be all plain sailing afterwards with that customer. He appreciates you as a man who can get up what he wants with only a few hints, and values you accordingly.

The writing and editing of advertising matter for customers is in line with the idea that it is the printer's duty to fill all demands and give customers anything of which he sees that they stand in need, and to exact a fair profit for such assistance.

CHAPTER VI.

TAKING ORDERS.

To insure satisfaction to every customer, it is essential that orders should be correctly taken, so that the work may be started rightly. It is impossible to be sure what a man wants unless you talk over the ground with him, and even when orders are written out quite fully, it is best that a little talk go with them to cover points that may not be fully understood. When a customer comes in and lays down a sheet of copy, saying that he wants so many thousand printed at such a time, it is a very inefficient office man who lets it go at that, and dismisses the customer with the remark that he will try and have it done. He should first examine the copy, reading a part or all of it, if in manuscript, in the presence of the customer, so as to ascertain whether it is all clear and plain. If there is anything that he does not understand it can be more easily explained then than at any time later. If the copy is reprint, he should ask if the arrangement of the type is satisfactory, and whether an exact duplicate is required, or whether an effort may be made to improve the appearance of the job. If the printed job is a good one, it is best to lead the customer to duplicate it, because that involves the least bother and expense to the printer, but my experience is, that it is a mistaken policy to seek the duplication of jobs that are below the standard in style and

arrangement, and that it is better to take the trouble of laying out a new display for a customer than to send out a job from your office that is below par.

In some classes of printing, working from manuscript copy, it is essential to have an understanding as to spelling and punctuation, as customers are occasionally notional on these points, and it is the duty of the printer, as far as possible, to give them what they want. It has been one of the writer's business rules to find out just what customers want, and let them have it exactly as they want it, provided the accommodation will not produce work reflecting on the quality of the printing turned out by the establishment. The customer who does not know what he wants requires to be guided, and the printer who is apt at making suggestions for such will increase his orders.

I have known of a large office printing labels for a new horse liniment, and spelling the title "Orrion," because it was a sort of trade-mark name, so given on the copy, the customer being an uneducated man. If a thoroughly intelligent man had taken the order, he would have told the customer that the correct spelling was "Orion," and had the copy altered so that the customer's ignorance might not be exposed to the world to the damage of his business, to say nothing of the damage to the printer's reputation, if it were known that he allowed such an error to go through. I have known another first-class house to take a reprint order for a billhead originally set by some amateur, in execrable style, and to give the usual instructions with reprint work, to follow copy as nearly as possible in type and arrangement. The man who took the order did not know his business, for if the customer did not

know that he received a poor job in consequence, others might observe it.

It is impossible to make too sure of a correct understanding of the copy. If it is too long to be read while the customer is present, it is desirable to skim through it and get his idea in having the thing printed, to understand just what he is trying to do, to put yourself in his place as far as possible, so that you may get the spirit of the thing—and then you are in a position to carry it out intelligently. It is unwise to give estimates without seeing the copy. A firm that estimated on a book of 120,000 words, of which the copy was to be typewritten, once felt safe in naming a price without seeing the copy. They got the job, and after setting up about a dozen pages the foreman sent down a request for 200 pounds of extra quads. The book was so abnormally full of breaklines that it strung out fully fifteen per cent. longer than calculated, and there was an actual loss of perhaps \$50 on producing the job according to contract. For further points along this line, see the chapter on "Estimating."

In taking an order every detail must be considered, that there may be no doubts during the progress of the work as to what is wanted. One cannot be too careful. I have known a customer to state that he wished a job set up in "that type," pointing to something on the wall. His finger was crooked, and the printer thought he meant the type of the adjoining job. No proof was shown and the result was a job brought back, a mad customer, and a mad printer. The whole difficulty would have been saved had the printer been careful enough to step forward and have the customer place a pencil or pointer exactly on the type desired. For the

credit of the printer, I must say that he learned a lesson and never made that mistake again. Two-thirds of the disputes over bills arise from little misunderstandings like the above in taking the order. The printer who takes an order should see that everything is so plain that there can be no room for misunderstandings. He should consider himself responsible for the copy, just as the proof-reader and reviser are responsible later. Some printers think that they are smart when they have proved to a customer that the error in a job was the customer's own fault, and that he must pay for reprinting ; but, that printer is much smarter whose carefulness prevents error on the part of the customer as well as on his own part. The latter will gain trade where the former loses it.

If a customer wants expensive work, it is not the printer's place to tell him that it is expensive, but simply to give the price. Let the customer be his own judge of what he can afford to spend. If he wants work at a less price he is usually only too ready to say so.

It is desirable to obtain all the copy for a job before beginning work. This is often essential to the proper laying out of the job. If it is impracticable to secure all the copy at starting, the customer should be notified that he is liable for extra charge if the copy prove more intricate or difficult to decipher than that in hand. Where copy is blind, it is best to ask the customer to have it type-written, calling his attention to the fact that this is likely to cost less than will be involved in making the necessary corrections later in type. Copy that is written on both sides, or carelessly arranged, or that requires considerable editorial work on the part of the printer before it is put into type, should be handled only on a time charge basis.

When, because of bad copy, or of incomplete directions at the start, or of changes of directions while the job is in hand, it is evident that the time charges on a job will be large, it is desirable that the customer should be so informed as soon as possible, that he may be prepared for meeting a heavy bill. If this is not done, he is very apt to think at the final settlement that he has been overcharged. Alterations often cost a great deal and make no showing. Where customers receive several proofs, and keep on making alterations, it is well to mark on each proof the time spent in correcting the previous proof, that the customer may realize what a bill he is making for himself.

In an office where a good job ticket is used, the man who takes orders should fill out the ticket while the customer is there, so that all items as to paper, color of ink, size of sheet, time of delivery, etc., may be correctly entered and receive the approval of the customer at the time. If the job ticket does not cover the whole ground, the man who takes orders may keep at his elbow a reminder blank containing every point or question to be discussed with a customer, and reference to this will insure his forgetting nothing. Such a blank might be made up like this:

POINTS TO BE REMEMBERED IN TAKING ORDERS.

No. of copies.	Look over copy.
Paper stock.	Examine proper names.
Cover stock.	Suggest improvements.
Size.	Proof.
Ink.	Alterations to be charged.
Binding.	Punctuation, spelling, etc.
Type.	Illustrations or plates.
Style.	Detention of press.
Electrotyping.	Embossing.
Padding.]	Standing matter.

It should always be made clear to a customer just what a price quoted includes, and for what he may expect extra charges. If he distinctly understands at the outset that alterations from copy will make an added time charge, and detention of press another special charge, and standing matter another charge, he can have no ground for objection to these items in the bill. If this is not made clear to him at the outset some sort of kick is almost sure to follow, with friction and perhaps loss to the printer.

It is always well to submit proofs of everything to customers. Probably one job in three of which a proof is not shown is in some way unsatisfactory. It is also wise to send well-printed proofs. This takes time and that costs money, and the customer does not want to pay for it directly. These facts prevent many printers from taking pains to send out good proofs. Nevertheless, it is the best thing to do, and pays in the long run. The first proof seen of a job gives the customer his first conception regarding it, and that conception remains with him as an impression. If the proof is on newspaper, with irregular margins, it looks coarse and crude and he does not know why. The result is that he is not pleased, and sometimes continues to regard the job with disfavor. It is the practice of the Lotus Press to print all proofs carefully on a proof press, using coated paper and very wide margins. A line is then ruled around the job, showing the size of sheet on which it is to be printed. This sets off the work, and gives the customer a satisfactory idea of the final result. He is apt to be pleased and to stay pleased. A customer who is favorably impressed with the appearance of a first proof is less likely to criticise the job on delivery.

If the first proof does not impress him favorably, he sometimes feels irritable toward the job, and finds all manner of fault with it after completion just because he never did like it.

The man who is clever at taking orders will always have plenty of suggestions ready for improving a job, and adding to its business-bringing qualities. This is more fully dealt with in the chapter on "How to Talk to Customers." The matter of assisting customers in the preparation of copy, and of writing and editing copy for them, is treated under the caption "Writing Advertising Matter, Etc., for Customers." In the present chapter I wish to impress upon the printer the advisability of taking orders with accuracy and intelligent appreciation of the customer's wants, so that the chances of dissatisfaction or loss by spoiling the job through misunderstandings may be reduced to a minimum.

Taking an order usually involves naming a time for the completion and delivery of a job. The careful order-taker should see to it that he does not make more promises than he can fulfil. To this end he must keep at hand some schedule of the work ordered, unfinished and to be delivered, so that he can tell at a glance whether it is safe to promise delivery at a certain day or hour. Few things damage a printer's trade more than the haphazard method of promising delivery at any time the customer desires, regardless of facilities for completing the work on time. A customer soon learns that it is better to place orders with a printer whom he can trust to keep his word, even if the delivery time is two or three days later than he desires, rather than to give his trade to a printer who promises him whatever he demands, and whose word he cannot trust.

Another thing for the printer to remember in taking orders is that it is bad policy to run down competitors in talking with customers. Such talk is in a sort advertising of the "other fellows," and although the remarks made are not to their credit, the point of view of the speaker is considered, and oftentimes the direct result of talking adversely about a competitor is the sending of the customer to his place to let him figure on the work. If you cannot say anything kind about your brother printers, say nothing about them. If they do bad work, fail in their engagements, or cut prices too closely, they will have to bear the consequences regardless of what you say about them. If they are good printers and good business men it is better to work with them to your mutual advantage in building up the printing trade than to cross swords with them in tearing down trade. Let your customers find out about them without any aid from your tongue.

The duty of the printer in taking orders may be summed up thus : To find out just what he is expected to produce, to see that the price admits of a fair profit, not to promise more than he can carry out, and to start the work correctly.

CHAPTER VII.

ADVERTISING.

ADVERTISING is a stepping-stone to success. I don't mean to imply that it will naturally follow that because a man spends considerable money for advertising he is bound to succeed. I know that a very large amount of the money spent for advertising is wasted, and in not a few cases has been the direct cause of failure.

If the advertising brings in more money than its cost it is good advertising. Or if the traceable returns pay only its actual cost, it is even then good advertising. A pleased customer is not only a permanent customer but is also the best kind of an advertisement, thus the good results are cumulative. Consequently, the continued orders and successive profits are an added gain to the immediate returns and make good advertising very productive. The advertising can only be expected to bring together the advertiser and the customer, the service the customer gets must be the thing that makes him a permanent customer. If the service fails to do this, or if the customer is disappointed or dissatisfied and there is nothing to induce him to continue his patronage the advertising will never be profitable. Advertising a store, for instance, will not result in profit unless there is some reason why people should purchase after they are induced to come into the store. Likewise, advertising a printing office will not result in

profit unless the printer can offer to prospective customers some advantage over his competitor, and thus secure the orders. To know what inducements to advertise involves a study of what the customers expect from their printer, and then arranging one's business to meet these requirements. To do this uniformly requires careful and close attention to business. In this way advertising is a stepping-stone to success. It induces the advertiser to give more thought to all the details of his business, and the successful advertiser is the one who gives more intelligent attention to his business than his competitors. This careful and close attention to business coupled with the cumulative results of good advertising will win success. Some lines of business make all their profit on the one sale; this, however, is not the case in the printing business. They have an almost unlimited field to draw trade from, while the printers' territory is restricted—usually to his own immediate vicinity—therefore, the printer must aim to make a permanent customer of all the trade he gets.

If you cannot offer some inducement do not advertise.

If there are good reasons why people should give you the preference with their orders, advertise it. It is a grave mistake to suppose that a cheap price is the greatest inducement a printer can offer. I believe the crude expression "cheap and nasty" originated in reference to printing. As the two terms are almost inseparable, it would be an insult to the intelligence of the business community to claim that price is the only consideration to the merchant when placing an order for printing, and my experience in the business has taught me that there are other inducements which vastly outweigh this one. A careful study of the field

will convince any one that the largest and most prosperous printers everywhere are those who get a good price for their work. They are not the cheap printers. Cheap printing is usually poor printing and must be cheap because it cannot command a higher price; it is not worth any more than its cost and frequently is not worth even that. Cheap printing is never profitable printing, and those who make a specialty of cheap printing, and depend purely on a price inducement, never become successful printers.

Printers as a class are not good advertisers. They seem to believe that advertising is a good thing for other people, but not for themselves. The printing business is one that will respond to advertising, because the pleased customer continues to deal with the printer. Once you gain a new customer, you are apt to hold his trade as long as you continue to satisfy him, and it is not a matter of getting only the profit from a single order. For this reason it pays to advertise printing, even though the expense seems to be considerable. Through advertising it is just as possible to make a customer of the man whose work amounts to several thousand dollars a year as it is to reach one who does not use so much, and it is because of this fact that it pays to advertise liberally.

As to the best methods of advertising printing there is no one particular way. There is no one method of advertising anything successfully. "All roads lead to Rome." In order to get the best results advertising methods and mediums must be varied. No two people are alike. What appeals to one falls flat with another. A handsome booklet may secure the attention of one person, while a comic skit or a useful blotter will please

another. In order to reach all it is absolutely necessary to resort to various plans and styles. Let your advertising be frequent and varied. Circulars, booklets, blotters, calendars, novelties, are all good. A splendid plan is to prepare several at once and have a definite time for their distribution. Prepare them when you have an idle press or when your compositors are not busy ; in this way the work will not conflict with the work of your customers, and will likewise be quite inexpensive. Let your advertising campaign be conducted systematically. Don't neglect it because you happen to be busy, and don't leave the sending out of the advertisements for a dull time. Let it be part of some one's duty to attend to this and see to it that it is done systematically, carefully and regularly. The preparation of the advertisements may be done in dull times if several are prepared at once, so as to reduce the cost of production, but do not let anything stand in the way of their circulation.

In large cities the least productive advertising for a printer is advertising in newspapers. A printer's customers are mostly local, and the circulation of a newspaper spreads over a vast territory that the printer cannot hope to do business in, although he must pay the full advertising rates. It would consequently be a mistake to do much advertising of this kind, because of the unavoidable waste.

Straight personal appeals, under full letter postage, is the best way to send out printers' advertising matter. Compile a list of names of people whom you know to be users of printing and with whom you would like to do business. Tell them about your advantages and tell them why it would be to their interest to send

their orders to you. Tell them as you would tell them if they were sitting beside your desk and you were talking to them. To make up a proper list of names may require considerable time and some expense, but it is worth all it costs; keep hammering away at the same names, adding new names whenever there is a chance.

Occasionally send some kind of an announcement or reminder to your regular customers. Don't neglect them. Let them know that you are alive, or some other printer's advertising may win them over from you; customers like to know that their printer has enterprise, and when the opportunity presents itself they will be very apt to recommend you to some acquaintance.

Put your imprint on your work whenever it is possible. This may be quite small and unobtrusive, but if your work is worthy of an imprint insist on having it appear.

Make your own announcements tasteful.

Inclose self-addressed envelopes in your correspondence.

If you do a particularly nice piece of printing send samples of it to people who are likely to be interested.

Classify your samples in separate sample books and keep duplicate samples to send by mail when necessary.

Pad your waste paper and distribute to your customers with your ad. on the back of each pad.

Put a neatly printed blotter in every package of office stationery.

Remind your customers when it is time to get out a holiday announcement or seasonable circular.

Distribute "Early Closing Cards" in summer, and "Please Close the Door" cards in winter.

Have a neat and comfortable business office in which to receive your customers. Don't expect them to stand up in front of a home-made counter or transact their business through a hole in a partition.

These are just a few suggestions.

Following will be found a variety of advertisements with suggestions for their get up. These advertisements are selected from a large collection that I have used, and are given here because they have proven successful. Some of them may need to be changed to meet certain local requirements or for other personal reasons :

CHRYSANTHEMUMS ARE NOW IN SEASON.

When trying to get up a nice, attractive announcement card or circular, has it ever occurred to you to have it printed in the colors of the particular flower in season? We make a careful study of color and design, and when a customer wants a handsome piece of printing, we have no difficulty in pleasing him. In this special line we have few competitors—it is a labor of love with us—a sort of hobby. It does not cost any more to do a thing correctly than to do it badly ; it is simply the knowing how ; and this “knowing how” is as much a matter of education as of instinct ; we have been educated to it ; besides having a natural talent for it.

If you are a lover of things beautiful, let us apply the principles of beauty to your printing.

[The above was a circular, 6 x 9, printed on a delicate primrose coated paper ; the caption had a two-color initial with chrysanthemum design, printed in Milori green and gold, the letter-press was printed in a green tint]

THE PARROT ATE THE PROOFS.

A customer reports that his parrot ate our proofs. That's a bird.

He must have heard the flattering comments on the job and thought it was something to eat.

Our customers are unceasing in their praises of our printing. Have we ever had an order from you?

[Enameled card, 5 x 7 ; cut of parrot at side, printed in red, blue and gold ; circular matter in same colors]

A FEW "NEVERS"

For those in search of culture and profit, and who are about going to the country on their vacation :

Never smack the lips or the children while eating.

Never pick your teeth or a quarrel at table. Both should be picked in the back yard.

Never fasten your napkin around your neck. It is now customary to wear a collar there.

Never make a pun at table (or anywhere else).

Never drum with your fingers on the table. You can make more noise by beating a tattoo on your plate with your knife.

Never smoke cigars while eating soup.

Never remark "I see Hash Wednesday is here again," when croquettes are being served

Never put your knife in your mouth. If there is no room on the table for it, balance it on the shoulder of the person next to you.

Never put your elbow on the table. If at a loss where to keep it put it in your pocket.

Never carry fruit or bonbons away from the table. If you want something substantial for a late lunch, sequester a turkey drum stick in your inside pocket.

Never scrape your plate or tilt it to obtain the last drop of anything it contains. The dishwasher is paid to do that.

Never stretch your feet under the table so as to touch those of your *vis-a-vis*. He may have corns which object to familiarity.

And last, but by no means least : Never, never, never, place your orders for printing or lithographing before coming to us.

[Circular, 10 x 12 1/2, black ink, gray antique cover paper, thick enough to hang up.]

NOT HOW MUCH IS SAID,

But how attractively it is presented. It is surprising to see how many business men use printing that not only does them no good, but really does them harm.

A little skill in bringing forward the important features in a pleasingly attractive manner is often worth hundreds of dollars to an advertiser. We have set many a business man on more attractive and profitable ways. Maybe we can be helpful to you. We do printing of all kinds.

[Large manilla mailing card, 11 x 7 : cut in orange, matter in blue.]

A VALENTINE.

The love that hides—too modest for to speak,
 Is sometimes twice as strong for seeming weak ;
 Hear then, what pansies whisper soft to you,
 Your lover, dear, is shy but always true.

We feel that some sort of an explanation ought to go with this sentimental outburst. We have courted you for a long time, and although satisfied with the result, we have never before had the courage to express ourselves so plainly, because we feared it might be considered out of place during business hours ; but we trust we will be excused for giving way to our feelings during this season of gush and sentiment. This is St. Valentine's Day, and Leap Year, and we propose to take advantage of it in spite of our natural modesty. We are so accustomed to writing up prosy advertisements that we frequently find ourselves telling our best girl that the only place to have printing done is at The Lotus Press, 23d Street near Sixth Avenue, and so-forth, and so-forth, when we really intended to tell her how much we loved her and what a dear little creature she is, and how empty this world would be without her, and "how we long to lay our head in her lap and have a good cry"—and perhaps it is safer to write her in a business strain after the severe experience of "Bunnie" and "Baby," and save the H's and K's for our business announcements, and keep our \$46,000 in our inside pocket for a rainy day—the printing business may not always be as good as it is just now, who knows?

And now since we have explained our reasons for sending this loving epistle and made so bold as to tell our acquaintances how much we adore them, and how sincerely we appreciate their favors (orders), we extend a cordial invitation to them to come and see us (when they need anything in our line).

With bushels of H's and K's and K. M. Q's.

We remain as ever,

[Circular, 6 x 10, printed in red ink, cut of pansy set at the side of the poetry. Sent out on St. Valentine's Day, "H's and K's," "Baby" and "Bunnie," etc., were expressions indulged in by a man who was sued for divorce at the time and who was mulcted for \$46,000. The case was much discussed in the papers and was familiar to every one. This kind of advertising will do occasionally, if it is a timely hit, and especially if it is followed up with something of a more serious nature.]

MR. CANDIDATE :

You are losing votes if your printing is being delayed. You can't expect big meetings if you don't let people know there is to be a meeting. You can't expect to be elected if you don't get your friends enthusiastic. Your friends won't be enthusiastic unless you are. You ought to keep hammering away at them with a new circular almost every day. If you have a printer who can do the work right for you, and do it quickly, and who is treating you squarely, stick to him—he is your best friend. But, if you are having disappointments of any kind with your printing, bring your orders here and get the very best service that money can buy. Don't send your order by a hanger-on who will expect a commission—better pay him liberally for his trouble and know that you are getting all you are paying for. We pay no commissions and prefer to deal direct.

Are you using as much printing as you should?

[Letter circular, sent to political candidates as soon as nominations were made.]

We make a specialty of church printing and would be pleased to have your order for Christmas programmes. Among the churches we print for are the following :

All Souls Church
 Bergen Reformed Church
 Church of Divine Paternity
 Church of the Holy Communion
 Church of The Puritans
 Crescent Avenue Presbyterian Church
 First Presbyterian Church
 Fifth Avenue Baptist Church
 Grace M. E. Church
 Marble Collegiate Church
 Madison Avenue Reformed Church
 Reformed Church of Walden
 St. Andrew's Church
 St. Mark's Church
 St. Paul's Church
 West End Collegiate Church
 West Presbyterian Church

You are invited to call and look at samples of our work.

[Printed on a postal card, and sent to all churches in the city.]

Whoever thou art that enterest this Church leave it not without kneeling down and saying a prayer to God for thyself, for those who minister, and for those who worship here.

Surely the Lord is in this place.

[A vestibule card, size 11 x 8½; two-color initial in red and gold, rest of matter printed in red and black; set in ecclesiastical style, large Tudor type; sent to ministers of all churches in the city; extremely small imprint at bottom of card. With this was sent the following circular letter:

The Lotus Press sends its compliments and begs you to accept these two Vestibule Cards, as they are peculiarly appropriate for that purpose

The Lotus Press makes a specialty of Church Printing. They have a large number of samples to show, such as Programmes, Service Lists, Calendars, Cards, etc.

There are times when the need is felt for some exceptionally attractive printing.

That is the time to visit the Lotus Press.]

LET'S GET ACQUAINTED.

Almost every business house will send out some kind of announcement or circular for the Fall Trade, and nearly all will want to do it nicely, and probably wish they could get some real assistance or valuable suggestion.

Those who will take the trouble of calling at our place will find a wealth of ideas to select from, and will get the help of our best judgment in the matter. Others who find it inconvenient to call will receive suggestions by return mail if they will send us the copy of their circular or announcement, or whatever they require.

We do all kinds of printing, but call special attention to Fall advertising in this circular, as it is probably the thing that is wanted at this moment.

[Circular, printed on double sheet, 5 x 8; brown ink, white paper. Same caption on the envelope in large type.]

SPRING ANNOUNCEMENTS.

A crying baby at a public meeting is like a good suggestion—it ought to be carried out. We wish to suggest that now is the time to issue a nice Spring Announcement, and if you make up your mind to carry out this suggestion let us do the work for you.

[Card, 4½ x 3½, to fit baronial envelope; printed in two colors]

THE WRONG WAY.

The wrong way to buy printing is the "cheap" way. If printing is to build business, it must be good printing. Good enough or pretty fair won't do. The best only is good enough. (We do the best work.) If you strain at a dollar and swallow a mean job—some do—your advertising cannot be bringing the best results. Good money pays for good work—we do the best work. We know how—know five years more how than other printers. We mix brains with the ink—the printers' ink. Booklets are trade-fetchers—leaflets, folders, circulars are money-makers. We estimate if you ask us—and you might better ask us.

[Circular, $4\frac{1}{2} \times 11$; amber paper, green ink; caption made in reverse so as to read backwards.]

DON'T

deal with a house where you have to explain your business to an errand boy, crane your neck to talk to an insolent clerk behind a glass partition, or stand in a little enclosure and lean your elbows on a counter while transacting your business. If you experience any of these annoyances, that is proof that you are not a customer of ours, so send your next order here and see the difference. Your work will be done as you want it, when you want it, and at the right price. Try it. It will be a pleasure to you, and money in your pocket besides.

[Circular, $5\frac{1}{2} \times 8\frac{1}{2}$, white paper, black ink].

YOUR PRINTER IS PROSPEROUS

A year ago when there was a general stagnation we were busy. We said then if times were normal we would not be able to handle all our work. Times are now normal—our prediction was correct. We have been compelled to take three times as much working room as we had before, besides adding very largely to our type and press facilities. Your orders will receive the same prompt and careful attention as in the past, and with your co-operation we hope to be compelled to spread to even greater proportions in the not very distant future. We are recognized as the best printers, and in time may be the largest.

[Circular, $5\frac{1}{2} \times 8\frac{1}{2}$; printed on blue tinted paper, with dark blue ink; envelope to match.]

WOULDN'T

a special circular or holiday announcement benefit your business?

We will help get it up for you if you wish it.

Our advertising pays us—we believe we can help make yours pay, too.

If you will call on us you will probably decide to act on this suggestion. We have arranged a special display for the occasion. You will be interested.

[Decorative circular, 3 x 11, legal fold; ornamentation in agate tint, matter in agate; primrose card.]

GENTLEMEN :

The enclosed piece of printing was done for a house in your line and is sent to you as a sample of our general work, with a view of making a customer of you.

We treat this work in an effective way. We do not overlook the commercial needs, nor do we lose sight of the artistic possibilities. We also do all kinds of plain printing. We aim to meet all legitimate competition in price and give greater value for the money expended.

We trust you will keep our card before you and remember us with your next order.

[Circular, with sample of handsome booklet, sent to other houses in the same line of business. Our card enclosed.]

WE ARE BOUND THIS SHALL BE RE(A)D.

Not simply
"Striking the iron while it is hot,"
But—
By striking make it hot.

That is the way to successful advertising. Some of the business men in this neighborhood are napping. Persistent advertising indicates enthusiasm. Get out a circular this week, a folder next week, then a booklet, etc., etc. There is no printer who can do it better for you than THE LOTUS PRESS. We put enthusiasm into our business, and can give your printing that touch of originality that will make it effective. A glance at some of our samples may give you an idea. You are invited to call.

[Triple fold, 6 x 11, printed on a Turkey red cardboard, with this caption on the outside centre fold: "We are bound this shall be re(a)d." This little couplet on the outside end fold:

No wild enthusiast ever yet could rest,
'Till half mankind were like himself possess'd.
—Couper.]

ONE OF OUR MANY

Pleased customers wrote recently: "I heartily appreciate the rare and admirable qualities of your work. You have resolved printing into a fine art. I know not which to admire most—your high standards of excellence, your tasteful combination of type and color, or skillful press-work." In this connection we wish to say, if you are not entirely pleased with the work you are getting in this line, we would like to render you this same service. We desire to state, also, that we have added a new feature—Photography. If you want to issue an illustrated leaflet or circular we will take a photograph of whatever may be required for the purpose. You simply write the copy—we now "press the button" and do all the rest. We are centrally located, and trust we may have the pleasure of a personal call from you.

[Circular, 8½ by 11, natural coated paper, two-color initial, gold and brown, type matter in brown; cut in lower left hand corner, photographer looking through camera, camera mounted on tripod, aimed at the reader of the circular.]

BOOKLETS are considered most profitable advertisements, but in order to produce the very best results they must be neat and artistic.

An ordinary booklet will be likely to make the same impression as a slovenly representative, but if it combines artistic taste with good language your booklet will be a success.

We make artistic booklets—the "successful" kind.

We make this kind because it pays us as well as our customers. We make more profit at it than most printers, though we do not charge any more than they—not as much as some. The reason is, that we know how and are especially equipped for it. It is our specialty. If you are a believer in this kind of advertising we can be of service to you. We take pride in our place and are not ashamed to have prospective customers call on us. You are invited. (If it is not convenient for you to call, invite us.)

[Printed on the office letter head, in typewriter type, violet ink; signed with a pen.]

REMEMBER

August is the time to think of ordering printing for Fall.

[Baronial size, hand-made deckle edge paper, envelope to match; printed in three colors; trade mark in lower left hand corner.]

ATTRACTIVE PRINTING.

A little illustration will sometimes add interest to a card, circular or booklet. We have many useful little cuts which our customers can have the use of without extra cost. We have a very large collection of ornaments and initial letters which help to make our printing very attractive. We know how to use them to good advantage. Our prices are reasonable.

[Circular, 9 x 12; cuts all around the margin, printed in light brown, body of circular in agate.]

TO OUR CUSTOMERS.

It will probably be a source of pleasure to you to learn that we are exhibitors at the ARCHITECTURAL LEAGUE EXHIBITION, now being held at the AMERICAN FINE ARTS BUILDING, 57th Street near Broadway, and that we are the only printers represented. The honor conferred speaks strongly for the merits of our work, and is, indeed, "a feather in our cap." If you visit the exhibition you will find our frame in the West Gallery (No. 245).

[Enameled card to fit No. 6 envelope, printed in red and black.]

WE WANT YOUR ENDORSEMENT.

If we were candidates for an elective office we are confident that we could count on your hearty support, but as we have no political aspirations we trust you will always bear us in mind as "High Grade Printers." To this end we shall endeavor to merit your endorsement.

Yours for success.

[Card, to fit No. 7 envelope, printed in red and black; cut of ballot box in upper right hand corner; sent out just before election time.]

A CUSTOMER WRITES:

"You treat your customers better than most people treat their intimate friends."

Letters of appreciation are always very gratifying to us. Gains that come as a matter of premium and are not earned, are apt to lack permanence. Many of our customers have dealt with us from the beginning of our business career—over thirteen years. If we did not earn their confidence, and after earning, maintain it, the results would not have been so lasting.

[Card, to fit No. 6 envelope, printed in two colors.]

THE LOTUS PRESS

Invites you to a novel exhibition of Art Papeteries, Folders and Printing (suggestions for Easter and Spring Announcements), from March 27th to April 3d, 1 to 4 p. m. daily. 140 West Twenty-third Street, New York City.

[Printed on an invitation card, card addressed to individual, sent out three weeks before Easter ; large line of appropriate samples from all stock houses.]

HEARD US BEFORE.

We're talking again, talking to the hard-to-please people who like particular printing. We are Particular Printers ; we put in that little extra nice touch that pleases you. Be the job big or little—its big enough to be well done. Our Particular Department is our whole shop. Ask us to prove it ; we can make you believe that Our best is The best.

[Large mailing card, 9 x 4 ; printed on 8-ply yellow blank. On the address side a large headline, "I've heard that before."]

As schools are frequently judged by their catalogues and other printed matter, we desire to call your attention to our special facilities for high-grade printing of all kinds. If the difference between a nicely printed catalogue and one poorly done influences only a few people, it more than pays for the difference in cost ; and that it will so influence, there can be no question. We will be pleased to look into the matter with you if you contemplate issuing a catalogue for the coming term.

[Printed on office letter heads, in typewriter type, violet ink ; signed with a pen ; sent to private schools.]

"DRAT THE PRINTER,"

Is a remark frequently indulged in, that might just as well be avoided. There is no reason why your printing should not be done on time ; and well done, too. Do you suppose that such corporations as the Cigarette Manufacturers or the Whiskey Trust would tolerate any house short of "first-class and reliable?" We do *their* work and would like to do *yours*. If you use any printing it will pay you to communicate with us (for many reasons).

[Circular, 5 1/2 x 8 1/2, black ink, white paper.]

A ROMAN TYPE.

"There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune:" but—

Ye gods! how a dilatory printer can upset one's plans!—
Are you handicapped in this way?

When the successful man finds that he needs a thing, he
wants it at once, and should be in a position to get it.
This is especially so with printing. We can give it to you
when you want it.

We are printers to some of the largest concerns in this
country, and are anxious to add you to our list. We
cater to the wants of successful men.

We have the type, necessary facilities and ability for prompt
service. Send us your work—it will pay you.

[The size of this circular was $8\frac{1}{2} \times 11$; the caption in a large bold
Roman type, and a metal type glued on at the side of the caption;
heavy ledger paper, black ink; enclosed in a No. 10 envelope.]

Will it please the eye and hold the attention? That is
the test we apply to all printing of an advertising nature.
Our practical experience as printers and advertisers, and
our art education, qualify us to decide correctly. When
it passes our criticism you will probably find no improve-
ments to suggest. We can help you make your printing
and pamphlets more profitable.

[Folder, 4 x 9, with attractive cut on outside page; printed in old
gold, black and tint.]

TO OUR CUSTOMERS.

The long promised wave of prosperity appears to be
approaching. Put aside your fishing rods and get ready
for business. We trust you have enjoyed your vacation,
and we hope to be remembered when you are ordering
your printing.

Yours for success through good printing.

THE GLAD HAND.

The pleasure of greeting to many of our patrons in the
past few days prompts us to extend a hearty "how-do"
to all. When you are in our neighborhood come in and
see us. When you need anything in our line don't forget us.

[Two advertising blotters; sent out at the end of the Summer vaca-
tion. Illustrated with cuts.]

HOW ABOUT A THANKSGIVING ANNOUNCEMENT.

An appropriate circular or card for Thanksgiving Day would be a very effective advertisement for many lines of business. They should, of course, be gotten out immediately or at least within the next week. We have appropriate illustrations, and will give our prompt attention to Thanksgiving orders. The above is simply a suggestion. Remember we do all kinds of printing and do it well and reasonable.

[A four-page circular, $5\frac{1}{2} \times 8\frac{1}{2}$, filled with Thanksgiving cuts, printed in green ink on yellow coated paper.]

THE LOTUS PRESS, PRINTERS OF WORK OTHER PRINTERS CAN'T PRINT.

Our best success is with those who leave their work to our taste. We aim to make every job profitable to our customers. Our prices are reasonable. Every order receives special treatment.

Commercial Printing,
Catalogues,
Booklets,
Brochures, etc., etc.

Our work has received most flattering comments from the leading advertising papers and printers' trade magazines. We invite orders from users of particular printing.

[Ornamental circular, $5\frac{1}{2} \times 8\frac{1}{2}$; printed on vegetable parchment paper, attached to a purple cover with a fancy brass fastener, tied with yellow silk floss, which was secured to the cover with sealing wax; addressed to the individual with gold writing fluid.]

RICHARDS IS A MAN

Of large experience and a "close buyer." His printing is done by The Lotus Press, 140 West 23d Street, New York City. If you want to know more about the Lotus Press ask Mr. Richards. If you want a practical demonstration of what they can do, don't bother Mr. Richards but send an order—it will pay you. The successful man profits by the experience of others. (Profit by the experience of Mr. Richards.)

[Circular, $5\frac{1}{2} \times 8\frac{1}{2}$, black ink, white paper. Richards was an enterprising advertiser in our locality.]

A series of postal cards, each with appropriate illustration. A tint block printed over the entire back of the postals so as to make them look different from the regular postals received in the business man's mail.

PAMPHLETS.

Your valuable time should not be taken up in furnishing ideas for your printer. You are not a printer, and he should be competent to relieve you of this annoyance. The success of a pamphlet depends on the taste and judgment displayed in the designing and type-setting, and it is in this part of the work that we particularly excel. Send us the order for your next pamphlet, booklet or catalogue and let us show you what we can do.

ART IN PRINTING.

A touch of art improves a piece of printing. It adds a little to the expense, but it more than pays for the difference in the cost. A whole life devoted to the study of good printing, together with an art education, has qualified us to do the work in a way that will make it profitable to you. Send us the order for your next catalogue or pamphlet, and let us show you wherein we excel.

LUCK IN BUSINESS.

Our knowledge of good printing is the result of a practical art education, combined with years of experience in handling the work of successful business houses. There is no guess work about it; it has been, and is, a constant schooling. It is probable that an order for a catalogue or pamphlet would make a customer of you and relieve you of much annoyance thereafter, as it would demonstrate our efficiency and secure your confidence. When you are ready let us look into it with you.

A TOUCH OF ART.

Often the mere setting up of the type in an attractive and pleasing style, or the addition of a few illustrations, or a more tasteful cover is the only change necessary to make an unsuccessful pamphlet a profitable one. With our practical knowledge of art we are enabled to do it right. A mere suggestion from us may be of value to you. On your next catalogue or pamphlet let us show you wherein we excel.

AIMING AT YOU.

If you are a large user of printing you cannot afford to waste time with incompetent printers. We want your particular work, and while suggestions are of course valuable, we do not expect you to fuss with the details of arrangement. If you will send us the copy for an estimate we will show you what we will make of it. An art education and a life devoted to the careful study of good printing are our advantages. Now is a good time to prepare pamphlets or catalogues for early Fall business.

Now.

At this season many orders are placed for catalogues and pamphlets. Practical ideas, together with our art education and knowledge of good printing, enables us to cut off the waste-basket circulation and make the investment more profitable to you. If you will send us the copy for your next catalogue or pamphlet we will show you wherein we excel. During July and August you could probably give the work more attention than at any other time.

CRITICS.

Competent critics have said of us, "there are no better printers than these." We are prepared to arrange with a few more large users of good printing and can give them the kind of service and advice in printing that they expect to get from a first-class lawyer in legal matters. Business men who do not wish to experiment for the sake of saving a dollar or two are invited to consult us when they require good printing of any kind. We believe we can be a great help.

BOOKLETS.

When we take an order for a booklet, we make up an artist's dummy—that is, a hand-painted sample copy, which shows exactly what the finished work will look like. We do not expect our customers to furnish the ideas. Our life study of fine printing and our art education enable us to get it up in a way that will insure its being read, and make a favorable impression. If you like this way and need a booklet, consult us. You have more to gain than we.

EXPERIMENTS ARE COSTLY.

The class of printing we do cannot be had elsewhere. At the present time we stand out distinct and alone. Each succeeding booklet we print is probably better than the one before. We never expect to reach the limit of excellence until the very last "job" is done. It is impossible to give prices for catalogue printing without seeing the copy and knowing the size. We would like to quote rates to every good advertiser who will write and ask for them.

FALL PRINTING.

Most any printer will take a big price for his work if he can get it. Don't pay the price unless you get the value. There are many printers who will charge you as much as the Lotus Press will. There is no printer who will give you as good work. That is a sweeping statement, and we mean it to be.

We are practically without competition. Nobody else is doing the sort of work that we do. Nobody else has the same equipment for it that we have. Nobody else is giving their minds to it as we are. Nobody else has had the training for it that we have had. You cannot get Lotus Press work anywhere but at the Lotus Press. We put art and brains and carefulness into every piece of work that goes out of the place.

How about your Fall Printing?

The reader of this chapter will find it necessary to qualify himself to carry out the inducements that are offered if he intends to use these advertisements, otherwise his advertising will not pay. Some people labor under the delusion that advertising will pay even though the thing advertised has no particular merit. It will certainly never pay to do this in the printing business—or any other legitimate business.

It is claimed by many printers that there is no special inducement to offer in this business, and that therefore it is not a business that will respond to advertising. A careful study of the examples on the preceding

pages will reveal a number of special inducements and suggest others. As I stated in the beginning of this chapter, good advertising requires careful and close attention to business, and will rouse the advertiser to give more thought to all the details of his business. Good advertising involves enthusiasm, and enthusiasm is an indispensable element of success. Enthusiasm is contagious, its influence will spread over the entire establishment and stimulate the whole force. It will prompt customers to follow the example set, thus increasing the business.

CHAPTER VIII.

HOW TO TALK TO CUSTOMERS.

THE education of customers to an appreciation of good printing and its commercial value is a science worthy of study. The printer who would prosper should be a salesman, or have one in his business office who is gifted as a salesman. There is more money to be made by proper talk at the desk than by much fingering at the case. I do not wish to be understood as advocating the persuasive, jolly talk by which some salesmen secure orders—I mean brainy talk that appeals to common sense, and invites the customer to take that which is better for himself and better for the printer.

The most common failing among buyers of printing is that the desire to get it at a low price leads them to beat down the printer, with the result that he gives work that is not of the highest excellence. One of the most serious failings among master printers is that they submit to this sort of thing, and that so many strive all the time to lower their prices in order to meet the customer's demands. This practice in business is all wrong. The only right way—for the good of the printer himself, for the good of the craft, and for the customer also—is to talk for better and finer work, first, last, and all the time.

Cheap printing always presents so many weak points for attack that it is comparatively easy for the printer to prove to his customer the uselessness of spending his money for anything but a high grade of work. The wonder to me is that all printers do not persistently and everlastingly drum it into the customer that cheap printing is profitless ; and yet I know that a very great number of printers seem to expend more effort in the suicidal endeavor to cheapen work for the public than in praiseworthy exertions to upbuild it. The notion is so unbusinesslike, that it is hard to understand why self-interest has not dictated the wiser course to all. If I could have the ear of every printer in America for just one half minute, I think that I could do more good for the trade by shouting "Talk up the quality of your work, rather than its cheapness !"—than by almost any other sentence that could be framed.

Continually impress upon your customer that issuing cheap printing is like wearing cheap clothes ; that it brings only discredit, and destroys the power of printers' ink to build up and increase trade. The standing of a firm is often judged by the quality of the printing that it sends out ; the character of their goods is pretty sure to be estimated as the equivalent of the printing. If this were not so, the expensive catalogues and price lists often seen would never be issued. The Gorham Company a few years ago issued an illustrated catalogue on which the printer's bill was \$110,000. The printer who secured the contract doubtless knew how to talk as well as how to print. Suppose that he had been a poor talker, or had tried to give them a catalogue at a low figure, he would then have lost a profitable job, and the credit of turning out a superb piece of work-

manship that was probably worth several thousand dollars to him as an advertisement.

It is more often possible to talk a customer into using a better quality of work than originally intended than many printers suppose. A good way when figuring on a new piece of work is to make the calculations and quote a price on a plain job, and then to suggest to the customer, "Would it not be worth your while to spend a little more, and secure a better effect? If it is worth while to spend \$500 in getting out 5,000 of these catalogues, is it not well to add another \$100 to make them beautiful and artistic, so that they may attract attention, be more widely read, and sell more goods?" If this sort of talk is followed up by the exhibition of samples of fine work, and with references to the greater impression that is made on possible buyers by the fine job, a customer very frequently may be influenced to go higher than he originally intended. By such means not only does the printer secure a job better worth having, but he eliminates the chances of the work's being given to some cheap printer who is cutting prices, because he has impressed on the customer the idea that quality is what he wants, and that he must pay more to get that quality.

A good level-headed salesman in the counting-room will "talk up" every \$1,000 dollars worth of work offered his firm to \$1,200, earning his own salary in this one item of judicious talk. It pays to have as an estimator a man who is a good talker; one who can read men and appeal to the qualities that he recognizes in them. Intelligence of this sort is hard to buy, and proprietors mostly have to furnish it themselves or go without.

It is well to lay out a regular system of talk for customers, to plan ahead all the arguments that can be brought to bear upon them to increase the quality of their printing, and to allow the printer a fair margin of profit. The application of these arguments must necessarily be very varied, depending upon the work, the customer, and the surrounding circumstances. But the effort to develop work by talking should never be relaxed, for it is a very valuable factor in the development of trade. Good talk often builds up a printery, while the lack of it may allow a good business to deteriorate.

The printer should never allow the assumption that he cannot compete with other firms in the trade. The instant this idea appears in his talk, the customer is apt to think that the other place is a good one for him to go to when he wants the real thing. Talk as if you had the best facilities, keeping any weaknesses of your plant to yourself; talk with enthusiasm, and then you will convince. Whatever the character of your office, it has some points of merit that you can point out to the customer, and it is your duty to think out just what they are, and use them in your talk as occasion demands. Depend upon it the bright men among your competitors will be doing the same thing. Know the value of your position in the printing world, and insist upon its recognition.

By keeping in the counting-room a large line of samples, talk with the customer is much facilitated. The judicious exhibition of samples forms a background to your talk that is as effective as are the illustrations to the text of a magazine. They assist you in continually calling attention to the originality and

ornateness of your work. A superior line of samples seldom fails to impress a customer with the idea that you are a superior printer. We should remember that printing is an art as well as a trade, and that the printer who leads his customer to better and more artistic things is the printer who will earn the greatest rewards. Judicious talk is perhaps the most effective means the printer has for improving his trade. It requires no expenditure of money, only judgment and brains. By advertising he may bring in customers, but it requires talk to land them, retain them, and develop them into patrons of good printing.

A recent article in the *Printer and Bookmaker* contains the following sensible thoughts on this subject :

We are trying to impress the printer who might be a talker, that he may give more attention to this necessary branch of his business. It is not sufficient when asked for an estimate simply to hand over the figures. It is your business to show the prospective customer that it is better for him to give you the job at your price than to accept a lower figure from some one else. You cannot expect to be successful in this perhaps more than one time in ten, but if you succeed in getting one in ten by some happy argument, the merit and the profit will be all due to your talk.

The man who gives out printing always has some object in view. He expects to realize a profit or gain of some sort. If you can show him that you can serve him better than others, as in promptness, tasteful display, an extra quality of work, or suggestions that help out his ideas, you can hope to get the printing at a higher price than some one who offers no other inducement than a low price.

If by your talk you can enable the customer to see more money coming to him as a result of his printing, you have scored a valuable point with him. High-class printing will always appeal to the eye of the customer; make it appeal to his pocket-book also, by calling his attention to the fact that a thousand copies of a fine

piece of printing will often be read by more people than ten thousand copies of a piece of cheap printing, and that the people who read the good work are sure to be more favorably impressed than those who read the cheap work, no matter if it is as well written. This is absolutely true, and the printer who keeps his eyes open will find numerous instances that he can cite to the customer to demonstrate it.

A few years ago I knew a clever man who acquired a patent in the manufacture of wall decorations. It was a good thing, both as to looks and cost. He established a large plant, got out a great line of samples, and photographed them, but proceeded to issue some of the meanest and cheapest printed advertising matter that I ever saw. His goods were fine, but his printing was vile, and no one who judged of the goods by the blurred and spotted half-tone illustrations on cheap paper ever wanted anything of the sort used in decorating his premises. If ever there was a business that demanded high-class printing to advertise it, this was one. The failure to appreciate this fact closed up the factory and bankrupted the proprietor, who was in most things a clear-headed and capable man. Had he early in his career run against a printer who had talked to him with sledge-hammer arguments about his need of the very best work, the wall decoration business might have been saved, and a good customer preserved to the trade. The last time I saw the name of this unfortunate concern in print, it was on a list of firms that could not pay their bills, and all for want of a right use of printers' ink.

Is it not true that the largest and most successful printeries command the highest prices for their work?

Is not this apparent in every large town and city? Is not this evidence of the fact that the best class of custom demands quality rather than low price, and that this is the line of talk to follow up to secure the best trade? These questions seem to me so self-evidently calling for affirmative replies as not to require answer here. They are only thrown in by way of emphasis, to clinch the nail of argument, that I hope is fastened in the mind of any doubting printer who has heretofore omitted talking to his customers, or talked only to cheapen work. If there are business men continually looking for cheap printing, it is largely the fault of the printers themselves who have allowed them to develop such ideas by their failure to drum into them the correct arguments.

Few things require more tact than talking to customers. You must lead them without seeming to do so; you must take them as they come, size them up, and talk to each according to his character and intelligence. It requires very different lines of talk to affect a baseball sport and a prosperous merchant; a clergyman and a lawyer; a liquor dealer and a pedagogue. Each must be guided by different methods, and occasionally some cannot be guided at all, but resent all hints and suggestions. In sizing up a new customer it is best to let him talk first, and say about all he has to say, that you may learn just what he wants. Then try to shape your talk so as to give him something that will help along the object that he desires to attain. Sometimes this requires considerable finesse, but a bright printer who makes a study of customers will soon find that it becomes very easy to lead them along to the better class of work.

It does not do to be insisting or over-positive with customers ; beware of combating them. Only the man of superior intelligence can bear to be combated and overruled. And when you do it with him, be very sure that you are right before you go ahead, for if you combat him, and he proves you wrong, it will require a long course of good conduct on your part to recover a position where he will pay any attention to arguments of yours. But if you have a stand-up argument with a very brainy man, and best him, you can often have it all your own way afterwards in directing his printing. He sees that you know your business, and are disposed to help your trade by assisting in making his schemes profitable, and he will be very apt to tie up to you. Cultivate your gift for talk, and it will pay you better returns than all the gifts of brass-rule twisting or manipulating of fancy borders to which some aspire.

CHAPTER IX.

THE COST OF PRODUCING PRINTING.

FEW matters are of as great importance in bringing success to the printing office as the making of prices. If they are too high, custom is driven away—if too low, there are no profits. Either extreme is disastrous, and it requires a strong hand and a clear head to steer the craft between this Scylla and Charybdis into prosperous seas. I believe that more printers fail through making prices too low than through making them too high ; and there are thousands of printers who work too cheaply just because they have never learned how to charge. They are so afraid of losing work by overcharging that they are constantly doing jobs at cost, a practice that is wholly indefensible. In order to charge properly, a printer must know exactly what it costs to produce work.

The trouble with most printers who estimate incorrectly is that they do not know just what it costs them to turn out their work ; they guess at many items and forget and omit others. If the paper for a job costs \$1, and it requires the time of the compositor and pressman to the amount of \$3, and a price of \$8 is given the customer, should the customer object and demand it at \$7, many printers accede to the demand, thinking that anything above \$5 is profit any way. The truth is that such a job usually costs the printer every cent of the \$8 to get out, and may often cost more, as the indirect expenses mount up so rapidly.

A writer in the *Typotheta and Platemaker*, for September, 1898, contends that it is necessary to add 113 per cent. to the compositor's time to get at the actual cost (not selling price, but *cost*), of work in the composing-room, and I believe that most printers who have been into this subject deeply will agree with me that the proper percentage is over 100.

In large offices the minor expenses are generally known, but in smaller offices they are only too often guessed at, with the result that the proprietor who may think he is getting fair prices discovers after a few years that he is making only wages, and perhaps wearing out his material without accumulating the money to replace it.

Whether an office is large or small the general expense can be arrived at, and should be added to the cost of labor in estimating on the job. I would figure about in this way :

SMALL COUNTRY OFFICE.

Platen Press Department, employing a quarto and a half-medium jobber :

One-third of yearly rent and half power, .	\$125
One-third cost advertising,	40
Interest, 6 per cent. on \$500 investment, .	30
Depreciation, 8 per cent. on \$500 investment,	40
One-third insurance, light, heat, unproductive labor, accidents, errors and all incidentals,	150
Ink, oil, benzine and repairs,	75
Share office expenses,	100
Part time proprietor,	250
One-third wages foreman,	250
Wages 2 feeders, 225 days in year,	450
Total,	\$1,510

Although 225 working days of the feeders are figured here, the product in such a small plant cannot be

expected to exceed 200 working days, so the boys will have to be maintained in the office at times when there is no real work for them. With a 200 days' production at a cost of \$1,500, we find that the cost of running these two job presses is \$7.50 per day, or say \$4.25 for the half-medium, and \$3.25 for the quarto. If the presses stood idle the whole year round, but in a condition of expecting work, this list of expenses could be cut to only about \$800, or about \$2.67 a day, estimating that there are 300 days a year on which they might be productive. This means that the idle time of the half-medium costs \$1.50 per day and the quarto \$1.17 a day. Few printers appreciate this *actual cost of idle time* of a press, because they do not realize that while these presses are idle they are maintaining a continual system of expense to keep them in readiness to produce work when it is wanted. A man might keep these two presses in a barn for a year at a cost of less than \$100, but when he keeps them in a printing office, ready for work, he will find that the actual cost is about what is here stated, varying a little according to conditions. In estimating on a job of work for such a platen press department, it may be fairly calculated that such presses can each turn out a job of 5,000 impressions, including make-ready and minor delays, in a day. To get at the proper price to charge the customer for a job of 5,000 impressions on the half-medium, one must figure about like this :

Actual time of press costs, . . .	\$1.50
Margin for idle time of press, . . .	.75
Time of feeder costs, . . .	1.00
Time of foreman costs, . . .	.75
Ink and waste, . . .	.25
Profit, . . .	.75
Total, . . .	<hr/> \$5.00

Very many printers would forget to make the second charge, yet it must not be overlooked, because in the natural course of events that press will stand idle one-third of the working days in a year, at a cost of \$1.50 a day, and this must be charged up to the paying work, or it will be lost. The actual cost of doing that 5,000 impressions under the conditions given is certainly \$4.25, and this cost cannot be reduced except by increasing the product. If a printer is given a year's steady work (300 days) for such a press he can afford to run it for \$4.25 a day, but all transient work should command at least \$5 a day under such circumstances. The smaller press should command \$4 or more a day under similar conditions. Then, if the two job presses in this department bring in \$9 a day for 200 days in the year, that is \$1,800; this leaves the proprietor with expenses of \$1,510, a profit of \$290 a year on his platen press department, besides a salary of \$250 for what personal attention he has given to it.

Cylinder Press Department, employing a 2-roller job and news press :

One-third of yearly rent and half power,	\$125
One-third cost advertising,	40
Interest, 6 per cent. on \$1,200 investment	72
Depreciation, 8 per cent. on \$1,200,	96
One-third insurance, light, heat, unproductive labor, accidents, errors and all incidentals,	150
Ink, oil, benzine and repairs,	75
Share office expenses,	100
Part time proprietor,	250
One-third wages foreman,	250
Wages, 1 feeder, 225 days in the year,	225
Total,	\$1,383

If this press is used 200 days in the year it will cost \$7 a day to run it, and \$8 a day is the limit of price below which no charge should be considered.

Such a press in a country office can usually produce about 7,000 impressions during a day, or 5,000 impressions including make-ready on one job. If the production were but 4,000 a day, which is as much as can be obtained in many offices, the prices would necessarily require to be increased. About \$2 for ordinary make-ready, and \$1.20 per 1,000 impressions is therefore the lowest price the printer can afford to make for the work of such a machine, producing 5,000 impressions per day. This will yield him \$1,600 for 200 days, or a profit of \$217 and a salary of \$250 for the personal attention he has given the department. It is obvious that if he cannot average this output for 200 days in the year he must charge more for his work. If the cylinder is busy only 100 days in the year, a condition very common in country offices, he can take off his estimate of yearly cost \$112 for feeder's wages, \$100 of the foreman's wages, and about \$188 from other items, \$400 in all; leaving an annual cost of the cylinder press department as \$988, or \$9.88 for each of the 100 days. He must then charge \$12 per day for the use of his cylinder press, which will yield him \$212 annual profit for the department instead of \$217.

Composing-room Department :

One-third of yearly rent,	\$50
One-third cost advertising,	40
Interest, 6 per cent. on \$1,500,	90
Depreciation, 15 per cent. on \$1,500,	225
One-third insurance, light, heat, unproductive labor, accidents, errors and all incidentals,	150
Share office expenses,	200
Part time proprietor,	500
One-third wages foreman,	250
Proof-reading,	250
Wages, 1 man and 2 boys, compositors, 300 days,	1,200
Total,	<u>\$2,955</u>

If kept on plain composition the three compositors may be expected to turn out 15,000 ems per day, *which costs the office 67 cents per thousand to produce.* Country printers who have been in the habit of doing composition for 50 and 60 cents per thousand, will please go over these figures a few times and see if they are not correct. If there is a large amount of composition, so that the proprietor can afford to put on say—two extra compositors, without increasing his general expenses, he may bring the cost down to 60 cents, but with the normal force of compositors given above, the cost of the composing-room is \$10 a day, and that, too, on the favorable assumption that there are 300 days in the year when full work can be given the compositors. As in an office of this sort there is usually a newspaper or some work giving steady employment to the compositors, it is not necessary to place the work on the 200 days basis, as in the press departments. If the proprietor charges 65 cents an hour for the man compositor, during the seven hours a day that he will be on composition, and 55 cents an hour for the boys, on the same basis, that is \$12.25 per day, this allows a profit of \$2.25 per day for 300 days or \$675 per year.

According to the above estimate, the proprietor of this country office will be earning as follows :

	Salary.	Profit.
From platen press department,	\$250	\$290
From cylinder press department,	250	217
From composing-room, .	500	675
Totals, . . .	\$1,000	\$1,182

Will any one contend that \$2,182 a year is more than a fair salary and profit for a man who has the ability to run such a plant properly, and has \$3,200

invested in material, and perhaps \$2,000 to \$3,000 more in good will, and who has to take all the risks of dull times, bad debts, and a hundred and one other things that may interfere with his success? I trust that this estimate will set many a country printer to applying the method to his own case, that he may know just what it costs him to produce his work.

Suppose we now take an office a grade higher, and calculate about what must be charged to yield a fair profit.

A \$7,400 SMALL CITY OFFICE.

Platen press department, employing four job presses :

One-third rent and half power, . . .	\$200
One-third cost advertising, . . .	60
Interest, 6 per cent. on \$900 investment, . . .	54
Depreciation, 8 per cent. on \$900 investment, . . .	72
Share of insurance, light, heat, unproductive labor, accidents, errors and all incidentals, . . .	250
Ink, oil, benzine and repairs, . . .	150
Share office expenses, . . .	200
Part time proprietor, . . .	375
Wages, pressman in charge, 300 days, . . .	750
Wages, 3 feeders, 225 days, . . .	1,000
Total, . . .	<u>\$3,111</u>

The expenses of this department are a trifle more than double that of the country plant, and having a little higher-priced help and better facilities, they should turn out a little more than double the amount of work. If the presses are a half-medium, two quartos and an eighth, the cost of operating them may be fairly divided as follows : Half-medium, \$4.75 per day ; quartos, \$3.75 each ; eighth, \$3.25—a total of \$15.50 per day. According to previous calculations, the country office has to charge the customer \$1 a thousand impressions on the half-medium and 80 cents on the quarto, in

runs of five thousand impressions. The small city office, with the whole time of a pressman in charge, should get 22,000 impressions a day, including make-readies, out of the four platen presses, when running with full work, as they should be for 200 days in the year. If the prices charged are then \$1 per one thousand impressions on the half, 80 cents on the two quartos, and 60 cents on the eighth, the yield is \$17.60 per day, or \$3,520 for the year of 200 full working days, leaving a profit of \$409 for the department.

Cylinder press department, employing a 24x36 press, worth \$1,200, and a 34x52 press, worth \$2,300.

One-third rent and half power, . . .	\$200
One-third cost advertising, . . .	60
Interest, 6 per cent. on \$3,500 investment, . . .	210
Depreciation, 8 per cent. on \$3,500 investment, . . .	280
Share of insurance, light, heat, unproductive labor, accidents, errors and all incidentals, . . .	400
Ink, oil, benzine and repairs, . . .	250
Share office expenses, . . .	500
Part time proprietor, . . .	375
Wages, pressman and 2 feeders, 225 days, . . .	1,125
Total, . . .	<u>\$3,400</u>

This cost is considerably more than double that of the one-cylinder department of the country office, but, as the presses are of a better class, a product more than double in quantity, and much superior in quality, may be calculated upon. It is apparent that these presses cost about \$2,025 a year for their keep alone, and if they are busy 225 days in the year, that is \$9 a day (or say \$3.50 for the small press and \$5.50 for the large press) of actual cost, which should be added to the labor cost on all jobs run on the presses to ascertain the total cost of production. For a job of

12,000 impressions, that can be made ready and run off complete on the large cylinder within two days' time, the proper estimate should be about as follows :

Time of press, 2 days,	\$11.00*
Time of feeder costs,	2.50
Time of pressman,	3.50
Margin for profit,	3.00
Total,	<u>\$20.00</u>

If the job were a difficult one, requiring extra make-ready, slip-sheeting, or any other special care, which would prevent its being surely completed within two days' time, the price should be correspondingly increased. Figuring in this way the large cylinder would pay a profit of \$1.50 per day and the small cylinder \$1 a day for 200 days in the year, or a total of \$500 for the yearly profit of the department.

Composing-room department, including \$3,000 worth of material :

One-third of yearly rent,	\$125
One-third cost advertising,	60
Interest, 6 per cent. on \$3,000 investment,	180
Depreciation, 15 per cent on \$3,000 investment,	450
Share insurance, light, heat, unproductive labor, accidents, errors and all incidentals,	325
Share office expenses,	500
Part time proprietor. . . .	750
Proof-reading,	500
Wages foreman,	900
Wages 8 compositors, 300 days,	4,800
Total,	<u>\$8,590</u>

If such an office could keep its eight compositors busy 290 days in the year, and charge and collect 60 cents an hour for their seven hours a day of productive time, it could obtain receipts of \$9,744, showing a profit of \$1,154 on the year's work ; but as a matter of fact the manager of such a composing-room cannot hope

*The idle time is included in this.

to keep his full force of men active for 290 days each year, hence in actual practice he would lose money in selling the time of employees at 60 cents an hour. It has therefore become the practice to charge also for the unproductive time of the men. If the time of composition on a job is 100 hours, many offices will add 10 hours for proof-reading, and 25 hours for distribution, making 135 hours. In this way a profit is secured without charging the customer a rate per hour that seems to him exorbitant. Figuring the time on this increased basis such a composing-room can employ its complement of eight men only 250 days in the year, and yet show a profit of \$1,000. Perhaps \$750 a year is what a proprietor might fairly hope to make from such a composing-room. It should be noted here that few composing-rooms can expect to keep eight hand compositors employed with only \$3,000 of material, as standing forms and varied work cause increased investment in type. This is one reason why so few composing-rooms can show a profit.

Some may criticise the entry of \$500 for proof-reading in this composing-room as being too low, but it should be remembered that the proprietor is allowed \$750 salary for his own time here, which is assumed to include some of the reading. According to my figuring this \$7,400 office ought to yield its proprietor total results as follows :

	Salary.	Profit.
From platen press department,	\$375	\$409
From cylinder press department,	375	500
From composing-room,	750	750
From business office,	500	....
	<hr/>	<hr/>
Total,	\$2,000	\$1,659

The above is what it ought to yield if rightly conducted, with proper charges, and I am only too sorry that I cannot add an expression of belief that the average office of this size does yield such returns. That it ought to pay this much is evidenced by the fact that few men would be induced to invest a total of \$10,000 (including good will value) in a printing house, without a reasonable certainty of getting a 15 per cent. return above salary in good years, to offset the risks of loss in bad times. Such being the case, estimates should all be based on the expectation of making such a profit at least.

In the calculations thus far, nothing has been said about charges for composition where machines are used. I am one of those who believe that the printer who buys high-priced composing machines is entitled to the extra profit that these will earn him, and that on putting in such machinery he should maintain his prices and not proceed to chop the prices down to almost cost. Various records kept by printing houses in the large cities show that after the compositor has been paid his piece rate on composition, there still remains to the office a cost of about 27 cents per 1,000 ems to cover proof-reading, make-up, and its share of general expense. Let the estimator recollect that this 27 cents of cost cannot be much reduced in a country office, and that it adheres just the same when composing machines are used as when the type is set by hand. To get at the cost of composition by machine, it is first necessary to take the wages item, then add the interest, depreciation, and minor cost of running the machines, and then to add this 27 cents for other expenses.

The printer who wishes to make correct estimates

must remember that there are seven general items of cost : composition, presswork, paper stock, plates, binding, delivery, and general expense. Each of these items may be subdivided. Composition includes type-setting, proof-reading, correcting, making-up and distribution. Presswork includes the time of the press, the labor cost, ink, oil, rollers, drying and handling of sheets. Paper includes all paper and card-stock, with an addition for waste and a charge for handling and cutting. It is proper to charge customers an advance of ten per cent. or more on the price of paper stock. Plates should include all electrotyping and stereotyping, engraving or other charges connected with illustrations or electrotpe plates. The binding includes all folding, gathering, collating and stitching, besides putting on covers, if any. Ruling is also usually figured in with the binding. Delivery includes packing, portorage, cartage and expressage. General expense includes rent, power, heat, light, water, telephone, clerks, superintendents, and office help, solicitors, taxes, elevator, interest on capital, salary of proprietor, depreciation, advertising, charity, insurance, bad debts, spoilage, postage, repairs, collecting, stationery, towels and cleaning, and all other minor items. In a large office these general expenses are pretty accurately known, and should be divided fairly between the departments. For instance, it is manifestly wrong to charge a portion of the power to a composing-room where no power is used. Each department of the business should carry that portion of the general expense that assists in supporting it, in proportion to the amount of money invested in that department. Rent may properly be divided according to the floor space of the departments. Depreciation

must be calculated by experience. The type and presses which were new yesterday are second-hand to-morrow, and would bring only half price at a forced sale.

It is the practice of many printers to charge 25 per cent. of type value to depreciation the first year, and 15 per cent. thereafter. It ought rather to be 35, 25, 20, and then 15 per cent. a year as long as it lasts. This is easily proven. It is fair to assume that the average life of type is six years, and that at the end of that time, if it has seen good service, it should go back to the foundry. \$100 put out at interest for six years at six per cent. will yield about \$142. If the same \$100 is invested in type, and we charge off \$35, \$25, \$20, \$15, \$15, \$15, we have \$125, to which we may add \$17 as the value of the old metal remaining, thus securing \$142 for the original \$100 invested. In preceding tables I have figured interest and depreciation in composing-room at 6 and 15 per cent. respectively, or a total of 21 per cent., which in six years yields 126, as against 125, the actual value loss in six years.

We can get at depreciation on presses in much the same way. Money doubles at interest in about thirteen years. In 13 years a new press becomes two-thirds worn out, and so antiquated that the live printer usually sells it and buys an up-to-date machine in its place. Suppose a cylinder be bought for \$2,000. It can be sold after thirteen years for about \$400. The \$2,000 would be \$4,000 at interest, therefore we have \$3,600 to mark off in depreciation and interest in that 13 years. That means \$500 the first year, then \$400, \$350, \$300 for the next three years, \$250 for the next year, and then \$200 a year for the balance of the thirteen years. In previous tables I have figured interest and depreciation

in the press-room at 6 and 8 per cent. respectively, or a total of 14 per cent., which seems to me to fairly represent the average depreciation in a press-room which is kept up by the occasional introduction of new machinery.

If the printer in estimating will always bear in mind that his miscellaneous items of expense are at least double the labor cost, and that he has to earn 14 per cent. on his machinery and 21 per cent. on his type to come out even, and that profit must be charged on top of these things—if he will always remember these, he is not likely to commit the common error of doing work at cost or below cost, or to find out after a few years that he has no money with which to replace his fast depreciating material.

If he will also bear in mind that a journeyman's wage is about 30 cents an hour, to which must be added another 30 cents for general expenses, and 30 cents more for interest, depreciation and profit, a total of 90 cents for every hour of productive labor; that of a good cylinder press with the usual help \$1.50 an hour, and a job press (half-medium with help) about \$1 an hour, this will serve as a convenient method of proving the correctness of his estimates when they become complex. In order that the printer may be able to know just what his general expenses are, and how best to divide them and charge to the several departments, I have appended here some tables taken from a report of a committee of the Cincinnati Typothetæ on "The Cost of Printing." With a little pains any printer can adapt these to his own establishment. This is very important, for unless the printer knows just what general expenses belong to each department of his business, how

can he know just what it is costing him to turn out his work?

GENERAL EXPENSES OF A \$65,000 PRINTING PLANT.

RENT—\$2,400—

Cellar: Vault for storage of Plates (charged to Press-room), . . .	\$18 35	
Boiler and Engine (charged to Power and Heat),	30 65	
Storage of Paper (charged to Press- room),	191 00	\$240 00

First floor—Press-room, 500 00

Second floor—

Counting-room, . . .	69 75	
Bindery,	85 75	
Press-room,	304 50	400 00

Third floor—Bindery, 400 00

Fourth floor—Bindery, 400 00

Fifth floor—Composing-room, . . . 400 00

\$2,400 00

Distribution of same—

Press-room,	\$1,013 85	
Bindery,	885 75	
Composing-room,	400 00	\$2,299 60
*Counting-room,	69 75	
*Power and Heat,	30 65	

\$2,400 00

INSURANCE—\$890 30—

Composing-room—type, .	\$11,200	\$237 40	
Press-room—stock, . . .	\$6,200		
Press-room—machinery, .	14,560	440 10	
Bindery—stock,	800		
Bindery—machinery, . . .	7,280	8,080	171 25
*Power and Heat—engine, .	1,960	1,960	41 55

\$42,000 \$890 30

* Included under those heads further along.

TAXES—\$325.73—

Press-room, . . . \$4.875	\$131 93	
Composing-room, 2,500	67 66	
Bindery, . . . 2,625	71 04	
Paper—stock, . . 1,937 (charged to Press-room)	52 40	\$323 03
*Counting-room, 100	2 70	
	<hr/>	
	\$12,037	\$325 73

INTEREST ON CAPITAL INVESTED—

Press-room, \$24,825 at 6 per cent.	\$1,489 50	
Press-room—paper stock, \$7,885 at 6 per cent.	473 10	
Press-room — unfinished work, \$840 at 6 per cent.	50 40	\$2,013 00
Bindery, \$13,980.65 at 6 per cent.	838 84	
Bindery—stock \$1,000.50 at 6 per cent	60 03	
Bindery—unfinished work, \$1,021 at 6 per cent.	61 26	960 13
Composing-room, \$11,521.45 at 6 per cent.	691 29	
Composing-room—un finished work, \$996 at 6 per cent.	59 76	751 05
		\$3,724 18
*Power and Heat, \$3,741 at 6 per cent.	224 46	
*Water Fixtures, \$250 at 6 per cent.	15 00	
*Gas Fixtures, \$250 at 6 per cent	15 00	
*Counting-room, \$467 at 6 per cent.	28 02	
	<hr/>	
	\$4,006 66	

WATER—

Interest on Fixtures,	\$15 00	
Water Rent—Employees,	30 00	\$45 00
*Water Rent—Boilers (charged to Power and Heat),	36 30	
*Water Rent—Elevator,	151 11	
	<hr/>	
	\$232 41	

LIGHT—

Interest on Fixtures,	\$15 00	
Gas consumption—Bindery,	128 03	
Gas consumption — Composing-room,	42 67	
Gas consumption—Press-room,	\$256 04	
Electric Light—Press-room,	263 54	519 38
		\$705 28

* Included under those heads further along.

ELEVATOR—

Water-power,	\$151 11		
Repairs,	36 70	\$187 81	\$187 81

COUNTING-ROOM AND GENERAL—

Rent,	\$69 75		
Interest (on Capital invested)	28 02		
Taxes,	2 70		
Salaries — Manager, \$1,560 ; Book-keeper, \$1,144 ; Clerk, \$401 ; Boy, \$137.85,	3,242 85		
Stationery,	22 50		
Advertising,	743 00		
Telephone,	100 60		
Commercial Agency,	50 00		
Legal Expenses,	20 00		
Trade Journals,	22 06		
Bad Accounts (charged to Profit and Loss),	1,182 35		
Interest and Discount,	1,222 81		
Soap and Towels,	55 50		
Two Porters,	782 64		
Interest on outstanding accounts, \$4,750 at 6 per cent.	285 00		
Petty Cash Expenses (such as car-fare, post- age, donations, Christmas gifts, brooms, police, scrubbing, ice, drayage, charity, repairs, plumbing, etc.),	408 00	\$8,237 78	

POWER AND HEAT—

	Total.	Divided.	
		Power.	Heat.
Rent,	\$30 65	\$26 65	\$4 00
Insurance,	41 55	41 55	
Interest,	224 46	150 66	73 80
Water,	36 30	27 30	9 00
Salary—engineer,	852 38	746 38	106 00
Fuel—(Bindery, spécial heat, \$100,)	439 50	254 50	185 00
Repairs—Boiler and Engine,	125 10	112 60	12 50
Oil,	17 25	17 25	
Depreciation—Boiler, etc., \$880 at 10 per cent.	88 00	77 00	11 00
Depreciation—Engine, shaft- ing, etc., \$1,741 at 10 per cent.	174 10	174 10	
Depreciation—Fixtures, heating, \$1,120 at 10 per cent.	112 00	....	112 00
		<hr/>	<hr/>
	\$1,627 99	\$513 30	\$513 30
			<hr/>
Total General Expense,			1,627 99
			<hr/>
			\$18,512 72

DISTRIBUTION TO DEPARTMENTS.

	Press-room.	Bindery.	Comp'g-room.	
\$2,299 60 Rent, . . .	\$1,013 85	\$885 75	\$400 00	\$2,299 60
848 75 Insurance, . .	440 10	171 25	237 40	848 75
323 03 Taxes, . . .	184 33	71 04	67 66	323 03
3,724 18 Interest, . .	2,013 00	960 13	751 05	3,724 18
45 00 Water, . . .	10 65	23 20	11 15	45 00
705 28 Light, . . .	528 58	132 53	44 17	705 82
187 81 Elevator, . . .	75 12	75 12	37 57	187 81
8,237 78 Counting-room, .	2,865 30	3,581 66	1,790 82	8,237 78
1,627 99 Power, . . .	1,240 32	387 67	....	1,627 99
513 30 Heat, . . .	106 80	324 50	82 00	513 30
<hr/> \$18,512 72	<hr/> \$8,478 05	<hr/> \$6,612 85	<hr/> \$3,421 82	<hr/> \$18,512 72

CHAPTER X.

ESTIMATING.

No portion of the work of an employing printer requires more care than the making of estimates. The calculations cannot be made correctly without a knowledge of the cost of producing work ; hence, they require to be made by a practical man, and the more knowledge he has of the details of the business the fewer mistakes he is liable to make. Estimating involves a calculation (often a shrewd guess) of the time required to perform certain work. The estimator must be careful not to judge of the time required by his own performance, for the chances are that he is a more than ordinarily fast workman. Most men who are near the top of the business are better and faster workmen than the average of those they hire. To judge of the time required on a job one must allow for the average product under average conditions. Something is always occurring to prevent work being turned out in record time. It is a popular saying that a man can set 1,000 ems an hour, but the actual performance in book offices is about 5,000 ems a day per man. A cylinder or job press can be run at a speed of 1,500 an hour, yet a large office in New York city found that its average production in a year from all its presses was but eleven tokens a day! These things are worth remembering when computing the probable time on a job.

It is best not to estimate closely on small jobs—say under \$20. It is also best to decline giving figures on work that is being hawked about among a number of offices, looking for a low bidder. Somebody is pretty sure to do it for less than it is worth, and it is a waste of good time for a printer who aims to do good work to figure on cheap work.

In estimating on book work or the like, it is often desired to know just how much the copy will make. In the case of a large job one cannot be too careful to avoid error here. When the size of type, size of page and leading have been decided, in order to learn how many pages the copy will make, count the words in a number of pages of the manuscript copy, making sure that you select average pages. If possible have a page set up, and be very sure that it is an average page. One cannot be certain that 500 words of manuscript selected at one point in the copy will equal the number of ems of 500 words taken from another point. A variation of fully 20 per cent. has been noted in the number of ems occupied by 500 words, as some subjects seem to require much longer words than other subjects. Then there is the matter of breaklines to be noted, which has so large a bearing on the way matter strings out. Having duly weighed all points, and being fully satisfied what portion of a printed page is filled by a page of manuscript, add a margin of five per cent. for safety, then half a page or more for each chapter that makes a break, which is sure to be greater in the type than in the manuscript. Count each title, dedication, frontispiece, etc., a page, and add blank pages to make even forms.

If the copy is uneven, or on odd sizes of paper, or

is only furnished in part, or contains a number of illustrations that are of uncertain size, always decline to make an exact estimate as to the number of pages, but make price variable, depending upon the number of pages it may run.

In determining the required amount of paper for a job, first be sure of your size, then the weight, quality and price. Beginners sometimes forget that if 16 pages go on one side of a sheet that it is necessary to allow but one sheet to 32 pages, and until a habit is established of regarding this simple point any estimator is apt to make a big bungle in figuring his paper cost on a job. Five per cent. should be added for waste of paper in printing, and a charge of 75 cents an hour is proper for cutting, and 50 to 60 cents an hour for packing and handling. On large lots of paper the customer should be charged an advance of 10 per cent. over the cost, and in small lots a larger percentage. On paper or card stock under \$5 value, 25 per cent. advance is not too much. It is well known that stationers commonly charge 50 to 100 per cent. on small lots. It is worth a larger margin because it often takes as much time to buy \$5 worth of paper as to buy \$500 worth.

In calculating on paper that has to be cut from larger sizes, one must bear in mind that if the job is to be run two or four on a sheet that it may not cut as well, involving more waste. Sometimes the paper can be got out more economically by making up a form the long way. If a certain job cuts conveniently nine to a sheet, and several are to be run at once, it will probably be better to run three at a time than to run four and waste paper; but it may be practical to secure a larger size of paper of the same grade and run in fours.

All these things have to be borne in mind when making the estimates.

When figuring the amount of composition on a job it is necessary to keep a watchful eye on price-and-a-half and double-price matter, and to make the needed extra charge. In judging of the time required to set an unusual piece of work it is well to take the judgment of another as well as your own. If a compositor thinks that he can set four pages a day it commonly turns out that he does set but three, and it is not often safe to figure on more than that.

In determining a price for presswork one may usually take fixed charges for the make-ready of forms of ordinary character, and for cut forms, half-tones, etc. The margin of time for make-ready should be liberal, however, as the starting up of a job on a press involves so many chances for delay. The preceding job may have been such as to involve a wash-up and change of impression surface, or it may be necessary to break in a new feeder, or a pressman unfamiliar with the conveniences of the office, or there may be delays because of a poor plate, or because an electrotpe has not come from the foundry. Things of this sort are occurring all the time rather than occasionally, and they must be allowed for in estimates if loss is to be avoided. A set price of so much a token or thousand may be made for certain different classes of presswork, after experience has shown that they are sufficient to yield a profit under average conditions ; but the printer should be wary in making a price on uncertainties in presswork. A new and untried grade of paper may present unsuspected difficulties in the way of peeling, or may require a special grade of ink involving much experimenting. I once

knew a printer who took a job of 1,000 posters on cotton cloth at double the price of paper, thinking that was a large enough margin. The threads raveling from the edges of the cloth were continually getting on to the rollers, so that the set used were wholly spoiled and the time on the job was about four times what he had estimated. Another printer who took a job of presswork, in red ink, at \$2 for 1,000 as a "filler," was astounded to find that he could not get a decent effect on the paper furnished with anything less than ink which cost him the full \$2 per 1,000 impressions he was getting for the job. I knew recently of a three-color job being taken by a prosperous city house at what was thought a fair figure, and after two colors were run it was found that the third could not be made to register because the form only impressed the paper at three distant points, and it was impossible to get the paper to lay against the cylinder as closely as when the first two impressions were taken, therefore the register was imperfect. The first printings had to be thrown away and the job printed in single pages to secure perfect register, involving a loss of about \$1,000. This means that unless a printer is absolutely sure of what he is doing he should not make a price on fine work except by the hour, or with some emergency clause which will save him on occasions like those mentioned. No printer can have familiarity with all classes of work, and even those who think they have experience sometimes fail seriously in appreciating the cost of producing a job that has some feature a little out of the common.

I hesitate to name prices for presswork, but I realize that there are those who will want figures to assist them. I do not believe that it is possible to make any money

doing a good grade of cylinder presswork for less than \$1.50 per 1,000, and a very large sheet or a number of fine illustrations should increase this minimum price to \$2 per 1,000. Where colored ink is used it is commonly worth one-half more, and may be worth double. The peculiarities of the job, size of sheet, length of run, etc., must determine the exact figures in any case.

In estimating on a large number of copies of a small job, one must usually figure in two or three ways to find out how many it is best to run on a sheet. One cannot be sure at a glance whether a job of a given quantity can be run most cheaply by setting up and making four plates or eight plates. Sometimes it is cheapest to set up several and run the whole thing from type, and occasionally it is best to run one type-form with three duplicates in plates. To illustrate, suppose we have 50,000 copies of a 6 x 9 circular on good paper, for which fine printing is desired. It cost \$1.50 to set the type, and electros $5 \times 8 = 40$ inches, cost 80 cents each.

Cost of presswork and electrotyping 50,000 circulars, 4 on:

Four electros,	\$3 20
Make-up and make-ready,	1 50
12,800 impressions, at \$1.00,	12 80
Straightening, cutting and packing,	6 00

Total, \$23 50

Cost of presswork and electrotyping 50,000 circulars, 8 on:

Eight electros,	\$6 40
Make-up and make-ready,	2 00
6,400 impressions at \$1.25,	8 00
Straightening, cutting and packing,	4 00

Total, \$20 40

Cost of presswork and electrotyping 50,000 circulars, 16 on:

Sixteen electros,	\$12 80
Make-up and make-ready,	3 00
3,200 impressions at \$1.50,	4 80
Straightening, cutting and packing,	3 00

Total, \$23 60

The making of eight electros is evidently the cheapest; but if the order were changed to 100,000 it would be cheaper to run sixteen on.

Another element in figuring on work of this character is that we now have special presses on which small jobs are turned out from single forms at a speed of from 3,000 to 9,000 an hour. With one of these machines and one electro the whole job might be completed in a day, and the cost still further reduced. Or, if the job were larger and of a cheap grade, it might be put upon a web press and done at half the price at which it could be run on a cylinder. But let the printer always remember that if he has better machinery than others, he has a right to make more money, and is, therefore, under no obligation to give such profits to the customer. The printer who is among the first to put in new labor-saving machines takes chances, and should reap the rewards in extra profits when he secures new machines that are money-earners.

Every employing printer should keep a book of estimates, retaining a copy of every estimate sent out. It is also well to preserve the figuring and calculations in case it may be necessary to go over the figures later. This avoids chances of disputes with customer, who sometimes forget or misunderstand, and say that you have promised to do the job for so much, or under such and such conditions. It is unsafe to name a price on a job that is at all complicated, or that involves much money, without going over the figures two or three times to prove them. The most careful of men will make errors at times, and only by systematic proving of the figures can the estimator avoid loss. He should figure each item of cost separately, so as not to confuse them,

and examine each to see if it is right, before he totals the lot. Then it is well to figure the job all over again in a different way. For instance, one may estimate on a job by taking every item at cost, adding all general expenses, and a final profit. Then one may prove this by calculating the number of hours' work on the whole job, multiplying by the price per hour customarily charged, and then adding for cost of materials used, etc. A third way is to calculate the presswork at a fixed rate known to yield a profit, then the composition, binding, etc., in the same way. This is probably the method most commonly employed by printers, and while it has the advantage of quickness I think it the most unsafe way of estimating large jobs, because the estimator is not brought face to face with the actual cost, and is too apt to think that he can drop off ten per cent. to get the job, and yet receive a profit. However, the printer who figures his large jobs in two or more ways, and finds that his totals are nearly in agreement, has positive assurance that his figuring is correct, and in deciding on the final price to the customer realizes just how much he is impairing his profit if he cuts the price slightly. If the printer finds a material difference in the totals obtained by the three methods, the reason for the difference can be hunted for and found, and a perhaps serious error is avoided.

I recently saw an estimate of \$144 given on a job that was done by a reputable printer, and I give a summary of the job here, with estimates formulated in several ways, proving, I think, that the price ought to have been at the very least \$210, and that it was done at an actual loss of \$40. The job was 5,000 catalogues, 56 pages and cover, 6 x 9 inch page, all stock, engravings and electros furnished, outside cover to be in two colors, binding pur-

chased outside, proofs to be furnished, and job to be packed and delivered f. o. b.

ESTIMATE* BY ITEMS AT ACTUAL COST.

Composition 56 pages, $1\frac{1}{2}$ hours per page, at 30c. an hour,	\$25 20
Time distributing and proof-reading on same, 40 hours at 30c.,	12 00
Composition, four pages of cover (two pages in two colors) 12 hours at 30c.,	3 60
Distribution, proof-reading and make-up of cover, 5 hours at 30c.,	1 50
Make-up three 16s and one 8-page form, 5 hours at 33c.	1 65
Taking proofs 5 hours, and extra corrections 5 hours at 30c.,	3 00
Making ready three 16s at 2 hours each, and one 8 at $1\frac{1}{2}$ hours; two color-forms at 2 hours each, $11\frac{1}{2}$ hours at 33c.,	3 80
Time of feeder, 6 forms of 5,000 each, at 7 hours each, at 20c. an hour,	8 40
Half time of pressman for 42 hours at 33c.,	6 93
Packing and delivery, 5 hours at 25c.,	1 25
Time of office help on job, 20 hours, at 30c., . . .	6 00
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Total labor cost,	\$73 33
100 per cent. added for general expense,	73 33
Binding (done outside),	40 00
Percentage on binding,	6 00
10 per cent. of labor and exp., for profit,	14 66
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Total,	\$207 32

ESTIMATE BY SET RATES.

Composition of 56 pages, the equivalent of 1,200 ems composition to page, at 70c. per 1,000, . . .	\$47 04
Composition cover, four pages, two in two colors, 12 hours at 60c., plus one-third for proof- reading and distribution,	9 60
Make-up, six forms, 5 hours at 75c.,	3 75
Time taking proofs, 10 hours at 50c.,	5 00
Presswork, three 16-page forms at 60c. a token, . .	36 00
“ one 8-page form at 50c. a token,	10 00
“ cover, two color-forms at 75c. a token,	30 00
Packing and delivery, 5 hours at 60c.,	3 00
Binding \$40, and percentage thereon, \$6,	40 00
10 per cent. on all but the binding for profit, . .	14 50
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Total,	\$204 80

ESTIMATE BY TIME, ETC.

Time of large cylinder press, practically one week, at \$6 per day,	36 00
Time of pressman and feeder at actual cost, as previously figured,	19 13
Time in composing-room, etc., as previously figured, at cost, but omitting time of office help,	48 20
100 per cent. added to composing-room for gen- eral expense,	48 20
10 per cent. on above items for profit,	15 15
Binding \$40, and percentage thereon, \$6,	46 00
Total,	<u>\$212 68</u>

I want to call special attention here to the fact that the charge of 100 per cent. added to labor cost for general expenses may be too low for many establishments. No printer ought to take this for granted without knowing just what is his general expense. A committee of the Typothetæ of Cincinnati, in 1888, made an exhaustive report on the cost of printing, and reported that in the composing-room "The amount of general expense to be charged against each job is a sum equal to about 113 per cent. of the wages involved in the job." If the 113 per cent. had been used in the above estimates the cost of the job would have been increased about \$9.

Comparison of the above estimates deduces one interesting fact, that while the totals of the estimates by "actual cost" and "set rates" are nearly the same, yet the cost of the presswork is nearly \$38 more and the composition almost \$29 less by "set rates." As the "set rates" are those commonly asked in the large cities of the United States to-day, the comparison serves to show why so many have complained that there was no money in composition, and that they took it simply to feed the pressroom. *The price of composition should be raised considerably above that quoted in the "set rates."*

An estimator for a printing plant is much strengthened in his work by the keeping of a record of the cost of all jobs, and subsequent comparison with the cost he has estimated. In every well regulated office it is possible to know after a job is done just what it cost, and this subsequent correction of estimates tends to make the man who does the calculating more expert.

It is generally remarked in the trade that printing is a ten per cent. business. Where there are a few firms that claim to make more than ten per cent. on their capital, there are dozens that admit that they make less. It seems to me that it is the duty of the men who make the estimates to try and improve this condition of affairs. In a business that involves so many risks, as does printing, we ought to figure to make 15 or 20 per cent. There are very few lines of trade in which producers take the chances that printers do. The press builder wisely takes no risks, but protects himself with chattel mortgages ; the paper dealer insists on a rating and limited credit ; even the tailor no longer trusts indiscriminately, but demands part cash down with the order. But the printer habitually takes orders for work that is of no use to any one but the man ordering, makes a price before he knows the cost, and usually waits for his pay. His risk is added to by the practical impossibility of turning out a large job without some typographical errors, any of which may serve as a basis for a demand by the customer for a discount. When trade customs demand that the printer take such chances as these, the printer ought to estimate to protect himself by demanding a larger profit on the work that affords a profit.

The detail of an estimate should never be shown to

a customer. He is not entitled to know anything but the gross price. The wisdom of retaining such knowledge is apparent on a very short examination of the effect of showing the details of estimates to customers. If you show the customer that you have placed a profit of 15 per cent. on the electrotyping you handle, you only invite him to go and buy direct of the electrotyper. If you show him that you are lower on presswork than Jones, and Jones shows him that he is lower on composition than you, pretty soon the work is divided so that both you and Jones are getting the little end of it. The knowledge of details when gained by a customer is always liable to be used to the disadvantage of the printer. Remember that your knowledge is a large part of your stock in trade, and that it should not be given away.

Beware of allowing yourself to be used as a tool by customers who bring you work to figure on, with no intention of giving you the job, but simply in the hope of securing a low figure, by which to hammer down the price of the printer who is doing the work. If you allow yourself to be used to reduce prices to your competitors, you have only yourself to blame when they retort in kind against you. Theo. L. De Vinne says on this point, in his "Price List":

"It is not fair to price another printer's work from partial representations of the case. In all cases where estimate is given to unknown parties, on reprint work, give it in this form: 'For an exact reprint,' so much. 'For work from manuscript copy, with alterations, etc.,' a much higher price."

CHAPTER XI.

ACQUIRING MONEY.

THE printers who retire from business with a competency are the exception. Only a small number acquire financial success. On the other hand, it is not an uncommon thing to find men, along in years, working at the case, who in days gone by have been owners of printing offices, and in many instances owners of offices of considerable magnitude. Many build up a large business and accumulate a great amount of machinery and type, but when the day of reckoning comes, or a period of adversity sets in, or they are compelled to dispose of their plants for any reason, that which cost them thousands of dollars will not realize hundreds. If they have put everything into their business and the march of progress has made their plant a back-number, they must in order to continue in business sacrifice their profits to compete with the new improved machinery ; and when that time arrives the end is near at hand.

Striking examples of this are so numerous as to be familiar to every one ; and so few precautions are taken to guard against it that it is probable that the same condition will always exist.

I have made a chapter on this subject because of the many friendly expressions from employers who had

read my article in a trade paper on "Business Precautions," which was written along these lines. One New York printer who has a very large plant said: "If I had adopted your plan 25 years ago I would be independently rich to-day and could retire from business; but it is too late now. I must continue to scrape along. My plant is a big one, but it is a back-number, and I can't make the profit I used to. My opportunities are gone!"

People in other lines go into business in the hope of making money enough so they can take things easy in later life if they want to. They have this purpose in view throughout their entire career, and the proportion who accomplish their aim are probably greater in almost any other business than in printing. They acquire real estate and other properties that continue to increase in value, and after having been in business fifteen or twenty years they have money enough on which to live comfortably, and can give up active business if they want to. It seems to be very different in the printing business; the majority of printers put all their earnings back into their plants, buying more machinery and reaching out for other classes of work without investigating the possibilities of making any greater profit with the increased facilities. Many and many a printer who was making a comfortable living with a small plant has been brought to ruin by "growing too fast," and by loading himself down with the expense of machinery which he not only did not have sufficient work for, but which would not have made a profit commensurate to the outlay even if he had been fairly successful in getting work for the machines. If the money had been put into a savings bank instead, it

would have increased steadily, while on the other hand the original investment not only depreciated in value, but was also an added expense and a constant drain on his profits. It is safer sometimes to err on the side of conservatism than on the side of adventure. At least let the chances of success be in your favor. Don't go into anything blindly. Just as systematic saving grows very rapidly, so a constant expense will amount to a considerable sum if allowed to continue. Five hundred dollars unnecessarily spent in fixing up a handsome office is less wasteful than if put into a machine that cannot be kept profitably busy. With the first the loss ends with the outlay, while with the latter there is a constantly accumulating loss which far exceeds the original amount. Don't let the foregoing remarks lead you to believe that I am opposed to the adoption of improved machinery ; for there is nothing I would advocate more strongly. The man who continues to operate an antiquated machine, the output from which is inferior to other machines in use, makes a very grave mistake. He handicaps his possibilities of success, because the running expense, if not more, is as great on the old machine ; it takes up as much floor space, and in every way costs as much to run ; therefore, if the improved one will produce more, and the accumulation of the increased profit would in a short time pay for the expense of making the change it would be very unwise not to do so, because the machine is not only paying for itself, but soon begins to earn a larger profit for its owner. Before making a change, however, there should be a reasonable certainty of having the necessary work to keep it profitably busy.

A man's earning capacity is greatest between the ages of 25 and 45 years. If he will adopt some method of forced systematic saving during that period he will be able in later life to withstand almost any adversity. In times of financial panic, plant and machinery count for very little ; the man with available cash is master of the situation.

The plan that I recommend and the one I have adopted, is Life Insurance and the Building and Loan plan. A regular investment of one dollar a week in a Building and Loan Association will amount to nearly \$1,000 in eleven or twelve years ; five dollars a week will amount to five times as much ; twenty dollars a week, twenty times as much. Systematic saving accumulates most wonderfully, but very few of us will continue to save systematically unless it be by some plan which once begun, requires that we shall continue. Local Building and Loan Associations are as safe as Savings Banks. Savings Banks are all right, but the man who makes up his mind to try to put a stated amount in the bank every week or every month will find many excuses for neglecting to do so, and perhaps soon abandon the plan entirely ; whereas the stimulus and incentive of the Building and Loan system are likely to induce him to find a means of fulfilling his obligation.

Besides the Building and Loan plan the employing printer should carry a Life Insurance Policy. The reliable insurance companies issue policies that will meet the requirements of almost any individual. Policies are written giving several options. The Endowment and Paid-up Policy plans are excellent. After being in force three months the family is provided for in case of death of the insured. At the expiration of three years the

policy is non-forfeitable. Whatever happens, the policy has a fixed value. If the insured finds it impossible to continue his insurance, or wishes to reduce the amount, the money he has paid is not lost. His insurance has a borrowing value. An arrangement can be made with the company whereby the insured may have additional time in which to pay his insurance in the event of such payment coming due at a date when he is unprepared. And an Endowment Policy that is begun in the prime of life matures at the time when a man may be glad to retire from the worries and details of the printing business. There is the security in these two plans that will enable a man to safely pass through a critical period that would otherwise be disastrous.

They may appear too trivial for some employers, but I have seen large enterprises go to pieces that could have been saved with less than a thousand dollars. The putting away regularly of a small amount is so insignificant as to be almost beneath the consideration of some business men ; but in neglecting it (with the expectation of making profit enough to permit of something on a more extensive and more pretentious scale), they may find that they cannot work out their ambition. They may perhaps be compelled to forfeit the fruits of a lifetime, and begin again at the bottom of the ladder, at a time of life when they are least fitted for the struggle.

CHAPTER XII.

PRICE CUTTING.

If there is any one thing in the business management of a printing office that particularly commands the utter disapproval of successful printers as being worse than other evils that beset the trade, it is the cutting of prices. The method of getting work by lowering the price has absolutely nothing to recommend it, and it is contrary to common sense. The practice is absolutely wrong in principle, and the reasoning advanced in its support, stripped of its verbiage, is the equivalent of that of the old apple-woman who bought apples at a cent each and was selling them at ten cents a dozen, and when asked how she could make any money at that replied: "By doing a very large business."

The majority of employing printers are more enthusiastic workers than they are competent business men. They worry more about an idle press than they do about the lack of profit in a job; and for this reason will take a profitless order for the sole purpose of keeping a press busy. Thus they establish a price not only on that particular order, but one that is used for comparison with every succeeding order. The evil results are not confined to the printer who does this, but other printers are expected to meet these prices, and knowing that the work has once been done at

these figures, another will take it at the same price, and soon this profitless price becomes the established price, and the whole trade is injured thereby. It is the repetition of this sort of thing that has demoralized the job printing business, and the only salvation lies in bringing this fact forcibly before the attention of the trade so that printers will realize the folly of it, and rather see a press idle or a composing-room empty than work for nothing.

There is always a certain amount of printing that must be done, and which will be placed at a figure that will leave a profit to the printer, if no printer can be induced to take it at a loss ; and if employers generally, instead of taking work for the sake of keeping their plants busy, will refuse to handle it except at a fair profit, they will find at the end of the year that they are better off, and soon the benefit will be felt all along the line, and the printing business will be in a more hopeful condition.

If the printing business as generally conducted is a ten per cent. business, it is apparent that a charge of ten per cent. more will increase the profit one hundred per cent., and it is probably safe to say that in seven cases out of ten an extra ten per cent. can be charged without serious objection on the part of the customer. A plant that is doing \$50,000 worth of business a year at a profit of ten per cent. makes very much less than if it did only \$35,000 worth of business in the same time at a profit of twenty per cent. I am aware that these assumptions are largely hypothetical, because there are few printers who make even the ten per cent., yet it is not only possible but proper that twenty per cent. profits should be secured on all small work. In small

job offices orders range in price from \$2 to \$20—sometimes more than the latter figure, but not very frequently. Very few customers would object to paying \$2.25 to \$22. Stationers and middlemen succeed in getting even larger advances on cost, and why not the printer? Recently I saw a middleman who obtained a quotation of \$21 on a lot of printing, and who, after endeavoring to get a lower price, finally left the order with the printer. Later I chanced to learn that he charged the customer \$38, leaving a profit of \$17 to himself. He simply secured the order and did a little of the talking for \$17, while the printer did all the work and furnished the stock, assuming all the risk of spoiling the job in process of manufacture (and there is always that risk on every piece of work), and he probably made ten per cent.—\$2. The division of profits in this case should have been just the reverse, the printer was entitled to the large end, and if all printers could be induced to realize this the business would be more profitable. The deplorable condition now so frequently lamented in the trade would not exist, and it might be possible for a printer here and there to amass wealth, just as we see men do in other lines of trade.

The printing business is different from most manufacturing lines, in that there never can be an over-production. The business now suffers, perhaps, because there are too many producers of printing, but if it were possible to go on producing and putting the product into stock, the condition would be even worse than that which existed in the bicycle business in 1898, when all the manufacturers had more wheels than the public would use. The liquor business does not seem to be greatly affected by the number of saloons in

existence, because there is a large margin of profit on the sales. If liquor dealers should try to compete with each other on prices, and cut their charges in half they would be obliged to do more than double their present amount of business to make as much money as they do at present. This fact seems to be universally known and acted upon. Notwithstanding that every small liquor dealer knows that the glass of beer that he sells for five cents costs but one cent we never hear of any trying to get all the trade by selling it for three cents a glass. It seems strange that saloon-keepers should be better business men than printers, yet it certainly looks as if they were.

Brother printer, if you have been guilty of price cutting, just stop a little while and reflect that it is not necessary for you to get every job in sight, but rather that you should aim to secure a fair profit on everything that you handle. By pursuing this course you will not have to work so hard and you will have something to show for your labor. Remember the busiest printer is not always the most prosperous printer. Look back over your books if you have been in business five years, and figure out where you would be now if you had rejected all the unprofitable work that came your way and besides that had charged ten per cent. more on all the orders that would have stood the price. If this will not cure you of price cutting, nothing will.

There would be less difficulty in dealing with men who undercharge if the average employee were made better acquainted with the actual cost of producing printing. If proprietors would occasionally take an hour and explain to employees all the items that go to

swell the cost there would be fewer employees setting up in business for themselves and cutting prices to get work. Many and many a bright young printer has started up for himself with an entirely mistaken notion as to what he must charge to come out even. The average journeyman learns that from \$1.50 to \$2 per thousand are common charges for cylinder presswork, and he reasons that the wages of the feeder and part time of the pressman cost but \$3 to \$4 per day, and that possibly the ink, oil and wear and tear may run up the cost to \$5, so that if a cylinder produces \$10 to \$15 worth of work in a day, that the proprietor clears \$5 to \$10. With these erroneous notions he goes into business and becomes a price cutter, doing presswork for \$1 a thousand and worrying along for a year or two until he either learns better or makes a failure.

Can we, as employing printers, blame anybody but ourselves for this sort of thing? Can we not prevent it by educating our employees so that when they embark in trade for themselves they will not be a menace to us? Is it not a part of our duty when teaching men the trade to instruct them how to ascertain the cost of work that they may not deceive themselves? If this course were generally followed, would there not be more good printers willing to retain places as foremen and superintendents at comfortable salaries rather than entering into competition with their former employers? In every city there is almost sure to be a printer or two of the price-cutting class who have been developed by ignorance and whose endeavor seems to be not to get good prices for printing but to get all the printing at any price. Of course such men

eventually learn to their sorrow that their course was a mistaken one, but when this knowledge comes the evil has been done to them and to their competitors; and when such price cutters have been brushed aside by the inexorable laws of trade that require a profit for a continuance in business, then, unfortunately, some other over-zealous and under-informed printers rise to take their places, and so the demoralization in trade is kept up. If means were devised for making such men see the error of their ways quite early in their careers, it would be a great boon to the trade as a whole.

There are printers who know the cost of work, but who deceive themselves as to their ability to rush work through, believing that they can produce work more cheaply than their competitors. It is a mistake for any printer to assume that he is smarter than those who compete with him for trade, and that his clever management enables him to get out his work 10 or 15 per cent. cheaper than others. Such men are usually hustlers themselves and calculate that the proper time charge on a job is the time that they themselves would require for its execution, whereas the proper time charge on a job is the average time that the average workman would consume in getting it out. The printer who really is smarter than his fellows can always be depended upon to charge enough for his work, and if he can rush it through in less than the average time he will know enough to pocket this legitimate profit and not give it away.

Other printers there are who mean to charge fair prices for their work, but who are continually cutting rates to new customers in order to "get in" on their trade. They call this giving "special" prices, but to

my notion special prices are always unprofitable prices and fail to bring any trade that is worth having. The man who brings his printing to a certain office because he has had a special price is looking for 'something more of the same sort. He is spoiled for the paying of regular prices, and wants more for the money than the printer can afford to give. I have nothing but condemnation for this sort of price cutting. Born of fallacious reasoning and developed by mistaken selfishness, it has nothing to commend or excuse itself, but is wholly and unqualifiedly bad in theory and ruinous in practice.

The custom of taking "fillers" is another form of price cutting. This error originates in the notion that a printer can afford to take work at less than regular rates if by so doing he can fill in the idle time in his pressroom—or it may be the composing-room. He reasons that he is doing \$1,000 worth of business a month at a cost of \$900, and that he has facilities for doing \$600 more worth of work, which could be turned out without any increase of his general expenses. In other words, the labor cost on this extra \$600 a month would be but \$300, and by cutting the price on that extra work to \$500, he sees a way to make \$200 more a month. This reasoning is plausible and deceives many, and probably will go on deceiving printers as long as competition exists. But it is all wrong, and must prove disastrous in the long run, because it does not take into consideration all the conditions.

The printer who cuts prices and takes a filler robs some other printer of a job that is paying a legitimate profit, and at the same time he spoils a customer and establishes a rate on certain work that is profitless to any

office doing all work at such prices. These things soon react on the printer who takes fillers. The competitors who lose the work on which he has cut the price are very apt to cut him in return, in order to make employment for their presses. Without profitable work to carry the general expense the office cannot be supported, since fillers are taken without regard to the items of general expense. The demoralization of customers and competitors that follows the taking of fillers always more than offsets any imaginary immediate gains obtained by filling up an office with work. It is not always the printery rushed with orders that yields the best returns, but rather the one in which the manager extracts a profit from every job that he touches.

George H. Benedict, a leading Chicago electrotyper, was so impressed with the craft's need of education in the matter of taking fillers that in February, 1899, he offered through the *Inland Printer*, \$100 in prizes for the best essays on "The Fallacy of Fillers." Mr. Benedict's own method of explaining the fallacy is found in the following dialogue, which is reproduced in full from the *Inland Printer*:

Question. What is your business?

Answer. Printer.

Q. Is printing a profitable business?

A. Not very; there is only a living in it, and not much of a future.

Q. What is the reason printing is not profitable?

A. There is too much competition, consequently prices are very low.

Q. Do you ever take orders at prices that are not profitable?

A. Sometimes I do when we are not busy.

Q. Will you explain why you are willing to do any work without profit?

A. Yes. Because when we are not busy we would rather take an order as a "filler" at cost, than to have our machinery or men idle.

Q. What is the occasion for taking the work at cost, even as a "filler"?

A. Others will do the same; they set the price; we take it for less when we want it to "fill in."

Q. Is it not probable that in figuring so close to cost you are liable to have a loss?

A. Quite likely, but we would not lose as much as we should if our machinery were standing still, or the men have nothing to do.

Q. You say others set the price. If this is correct, how do you suppose they feel at the loss of the order?

A. I don't know anything about that, it is none of my business. I am looking out for myself.

Q. If you were to hear another say that would it not indicate selfishness?

A. Perhaps it would, but "Self-preservation is the first law of nature."

Q. Do you not think all printers have the same views of "fillers" that you have expressed?

A. Undoubtedly; they will all take "fillers" when they need them if they get a chance.

Q. If that is the case, is it not probable that the practice of taking in "fillers" has its effect in lowering prices on all work?

A. I don't know about that. When I am busy I get all I can for my work, and when I am not busy I take it at any price I can get.

Q. Are not all printers alike in that respect?

A. Quite likely.

Q. Aside from improvements in methods and machinery, can you mention any factor that is accountable for the lowering of prices?

A. Competition lowers prices.

Q. Do low prices create an increased demand for printing?

A. I don't know whether they do or not.

Q. If that is the case, would it not be well to maintain a profitable rate for your product and let the "fillers" go to the one who names a profitable price on the work?

A. It would be a good thing for the other fellow, but it would not keep my machinery running, and that is what I am interested in.

Q. As a matter of fact, if you want "fillers" and every other printer wants "fillers" is this practice not a fallacy? Are you not, by upholding the practice, doing the trade you are in as much harm as you can? Are you not accountable for being in the competition, which you declare is the cause of low prices, and if you continue to want "fillers" can you expect competition will ever be less keen?

A. I presume not. I, like the rest, want to be busy, and as long as others apply the theory of "fillers" to keep going, I must do the same.

Q. Then the "Fallacy of Fillers" is rather a difficult proposition to solve?

A. It beats me, and I give it up.

I cannot conceive how any sane printer after reading the above can continue the practice of taking work at cut prices to fill in. It is hard to understand why intelligent printers should cut prices in any way, yet the fact remains that price cutting goes on in every city in the country to a greater or less extent, and that this has more to do with keeping the craft poor than any other existing condition.

We all know that doctors, lawyers, and professional men generally scorn to underbid each other, but rather seek the reputation of making high charges, because their services are then deemed the more valuable. The printer who will but have the courage to take chances on losing a little work by keeping up his charges will soon find that this is one of the secrets of success. It is natural for customers to refuse to place much value on that which they can buy cheaply, and they assume that the printer who makes high charges is more sure to give good work than the printer who does it cheaply; and in this way are correct, for only the printer who makes proper charges can afford to give the best service. Therefore it is that the few printers who know enough to charge good prices control most of the good custom, while the price cutters get that which is least worth having and remain poor.

Never yet did a printer get rich by cutting prices; the most prosperous have been those who charged the highest prices, seeking to give customers quality rather than cheapness.

CHAPTER XIII.

COMPETITORS.

WHILE the theory of business is to secure a large share of work at profitable prices, and while competitors are always in the way of one's accomplishment of this object, yet it is a serious error to assume that competitors are enemies, and that it is a part of one's duty as a business man to pull others down in building up one's own trade. On the contrary, an employing printer should be just as careful in his treatment of competitors as of his customers, and a large measure of his success will be dependent upon the character he bears amongst those with whom he competes for trade.

I consider that the proper way is to regard competitors as limited partners in one's business, having some interests that are common as well as some that are opposed. It is apparent, if there are ten printing offices in a city, that the trade must be divided between the ten or else go out of town, and the division must usually be in such proportion that the smallest and weakest of the ten may at least earn a living for its proprietor. Such being the case it behooves all to consider what things they have in common. These ten can regulate the prices of printing in that city up to

the point of competition from other cities, and they are certainly foolish if they allow competition among themselves to depreciate prices. The ten have another bond in the matter of resisting any possible unfair exactions or demands from their employees, which can be done by combined action. Another mutual interest exists in exchanging the names of undesirable customers, thus protecting each other against loss.

If competing printers will but cultivate one another they will find many advantages in reciprocation. Suppose that in our city of ten printing offices there are ten publications given out to local printeries, and that five of the offices are doing them on yearly contracts. The other five want this work to make steady employment for the men, and cut the rates so as to secure the work. Thus the publications are seesawed year after year, from office to office, always at a lower rate. How much more sensible for the ten to get together and say: "These ten periodicals must pay us fair prices. Let us make a rate applicable to all of them, and all agree not to touch them under that price. Then the customers may give them to whom they please, and some of us will make a little money off them, while nobody can lose." It is so evident that this is the proper policy that it is hard to understand why this is not the common custom. As a matter of fact we all know that the common way is to allow the work to be cut and cut in price, by the very men who have to do it. This policy is as foolish for master printers as it would be for ten workmen in an office where there was employment for but nine, to each go to the proprietor and offer to accept lower wages for fear of being dismissed. When employees know better than

to go about underbidding each other, why do not proprietors profit by their example?

The treatment of competitors is not altogether a question of maintaining prices. It is the duty of every man to be a gentleman, and the master printer who never forgets this will be ever fair and courteous to his business rivals, and never serve one a mean trick, or say that behind his back that he would not say to his face. Discourtesy to competitors may take various forms. The printer who runs down the work of another, or unfairly decries his facilities is guilty of discourtesy. If a competitor's work be absolutely bad, so as not to be in the same class with yours, and customers quote his prices against you, it does not require very much tact to make the customer see the difference without descending to abuse of the other printer. A good way in such a case is to say: "Well, if Jones has offered to print that for you for \$100, I have no doubt that he will put \$100 worth of work into the job, for he is an honest man; but I cannot do that job in the way that I consider that it should be done for less than \$125, or I should lose money, just as would a dealer who offered you a pair of shoes with a \$5 value for \$3. I have nothing to say against Mr. Jones, his methods, or his prices, but I find that it pays me best to do work like that—and that—(showing samples) and to charge what it is worth."

Is not this more gentlemanly, and quite as likely to preserve the customer, as if you should say: "Why do you go to that man Jones? He has nothing but old type and worn out presses, and does not know how to do good work." Such talk would sooner or later be carried back to Jones, who would

learn to hate you and damage you whenever he saw a chance.

If a competitor is your equal in the production of work, it is even more culpable to decry his efforts. If asked to comment on the work of such a man it is always best to admit his merits frankly, as by saying: "Smith is a good workman and a fair competitor ; I have nothing to say against him." When Smith learns that you speak thus of him, he will be very apt to speak well of you, and sometime when you meet it will be easy for you to arrive at understandings for the maintenance of prices.

Another form of discourtesy towards competitors lies in the taking of employees from others without fair notice. If you want a workman employed by another, and take him away when the other wants him, he may retaliate by taking one of your best men, the total results being a feeling of enmity between two employers, and two workmen receiving increased wages. If an employee of a competitor comes to you looking for a place, and you want him, it is best to say: "I will not hire you while in Mr. Blank's employ; if you were through with him, I should be glad to make a place for you, but I won't do anything that Mr. Blank might construe to be unfair." If the man then says that he will give Blank a fortnight's notice, you will do well to write Blank a polite note stating the exact circumstances, and adding that you want the man, but will not take him if objected to by Mr. Blank. By this course you will probably get the man, as Blank will be apt to conclude that if the man wants to change it would be unwise to try and keep him, and you will establish a reputation for fairness with Blank,

which should be to the advantage of both. Other competitors will hear of it and decide that you are a square man, and when you have business with them you will find that they trust you.

Always try to help out a competitor when he is in trouble, as from breakdowns, fire or strike. Help him get out his work, if necessary, lending him your presses at night, and assure him that you will not endeavor to steal his customers during his trouble, thus adding to his misfortune. Do not think that by doing these things you are making sacrifices, for be assured that such good turns will pay better in the long run than will any small meannesses that bring in present cash, but which create ill will.

Right here I want to say a word for what the Typothetæ is doing along these lines of developing good-fellowship and fraternal feeling among employing printers. There ought to be a branch of the organization in every city of over 15,000 population, and every reputable printer in cities where a local organization exists should become a member and learn to work with his brother printers for the common good. We see trusts forming on every hand, because in so many lines of trade there is economy in the coming together of the houses that do a large business. A trust is impractical in the printing industry, but it is practical for the master printers to get together and work together along certain lines. This is the work that the Typothetæ has laid out for itself, a work in which it has accomplished a great deal. If you are a member you know its benefits. If you are not, do not remain without and decry the institution. Do not be a croaker, saying: "You cannot get printers to stay together ;

they will talk pleasantly to your face, and then go away and cut you," and so on. Ten to one the man who talks this way is as much distrusted by his fellow-printers as anybody he distrusts. Be manly, and treat your fellow-craftsmen like honorable men. Put them upon their honor, and you will find them as honorable a class of men as can be found anywhere. By joining the Typothetæ you put yourself in the way of cultivating the spirit of fairness in competition.

I know members of the Typothetæ who will never give a figure on a large job that bears the imprint of another Typothetæ member without first consulting with the member who does the work. I know another Typothetæ member, who after doing business forty years in a city, and receiving a testimonial on his birthday from his fellow typographers, was able to say in response that his heart was full of gratitude to find that after so many years of active competition in one city that every competitor in the place was his friend. I know another Typothetæ member who has repeatedly made public offers to give a portion of his time to any beginner in business to assist him in knowing how to charge and how to run a printing office successfully. He does not claim any philanthropy in this, saying that he does it because he objects to competing with ignorance. I will not pretend that such men as I have just cited are the rule, but the fact that some of them have been developed in the Typothetæ speaks volumes for the possibilities of the organization as a means of bringing master printers together for the common good.

For the benefit of those not familiar with the work-

ings of a Typothetæ, I will cite the objects stated in the incorporation of the New York body :

To foster trade and commerce, to reform abuses in trade, to protect trade and commerce from unjust and unlawful exactions, to diffuse accurate and reliable information among its members as to the standing of merchants, to acquire, preserve and disseminate valuable information relating to the printing interests of this and other cities, to produce uniformity and certainty in the customs and usages of trade, to settle differences between its members, and to promote a more large and friendly intercourse between printers and between merchants.

Of course the organization serves a valuable end in offsetting any possible aggressions of labor organizations, which in their zeal for their own interests sometimes overlook the fact that employers have to arrange matters to make a profit. But it also presents many minor advantages, among which may be cited these, taken from a New York Typothetæ circular:

1. Of telephoning or writing to the rooms for information as to the credit of customers who have dealt with other members.
2. Of enquiring for further particulars as to any names entered on the list of undesirable customers.
3. Of sending in poor accounts for collection. No charge if no collection is made, 10 per cent. if collected.
4. Of taking books from the library, which is the finest collection of works on printing in the world.
5. Of securing names from the register of desirable persons as superintendents, foremen, compositors, pressmen, etc.
6. Of entering remonstrance against price-cutting by any member of the trade.
7. Of attending a lunch given without charge by the Typothetæ at every regular meeting, and affording opportunity for increasing social acquaintance.
8. Of using the rooms for business appointments, etc., at any time.

At this date the Typothetæ has local organizations in thirty-three cities of the United States and Canada.

It has existed as a national body for thirteen years, and has developed a marvelous capacity for usefulness during that period. I believe that the printing trade is just beginning to learn the advantages of co-operation, and that the next twenty years will see enormous development along these lines. Those printers who are the first to recognize this, joining the Typothetæ, and working for co-operative developement, will be the first to reap its benefits.

Those who would profit most by membership in the Typothetæ should be regular attendants at the meetings, and workers in committee, etc., for thus they keep in closest touch with all that is going on in the trade, and are best able to shape the course of their own business to meet circumstances. A yet further advantage that comes to members who are active, lies in the associations, acquaintances and friendships that develop with competing printers. We are all too prone to think that our competitors are mean fellows, but when we meet them in the Typothetæ and become social, we often discover that they are of the very best sort, and, learning to trust them, we are able to negotiate understandings that are mutually advantageous. For instance, suppose that A, B, C and D are all members of the Typothetæ, and become well acquainted. Some day they meet on the business of a committee. It is generally known that each of the four does practically all the work of certain large commercial concerns, and that if any one were to lose any of such large customers, that the work would probably be offered to one of the others present. A says: "Gentlemen, I have been thinking that we four ought to have enough confidence in each other by this time to know that we

can trust any one of our number. Now, would it not be a sensible thing for us to come to this understanding: let each man here pledge his honor that he will not figure on any of the large work now being done by another of the quartette, without first having a talk with him, and giving opportunity for an understanding that will prevent us from cutting each other?" All four will probably see the force of the argument, and agree to the conditions. Such an arrangement can be made only where personal confidence exists, and such personal confidence is seldom inspired in any other way than through acquaintance developed in the Typothetæ.

I do not urge these things with a view that a combination of printers should put up prices on the public beyond a reasonable figure, because I know that to be impossible in a trade that suffers from so much competition. But I do urge that master printers co-operate for the maintenance of fair prices that will yield a proper return for the investment of money, experience, brains and energy essential to the conduct of a printing plant. There are few lines of business that require at once so much technical knowledge and so much general business sagacity as printing, and the man or firm that has spent years in acquiring these is entitled to adequate returns.

The master printer who has an established business and good trade should protect himself from loss through the competition of price cutters by seeking to educate them up to his own standard. When a young firm starts in business it is very common for them to seek work by offering reduced prices. I fear that it is *the* most common method of the beginner in business. Under such circumstances it is a wise thing for the

proprietor of an older or larger printery affected by such competition, to invite a conference with the young firm, and to show them exactly what printing costs, and why they are injuring the trade as well as themselves. There are times when it may even pay to farm out work to a competitor who insists on doing printing below cost. If a young firm are offering to do press-work that is worth \$1.50 per 1,000 impressions for only \$1 per 1,000, and a neighboring large printer gives them an order from his place, and after concluding the contract says: "I give this to you because I find that you will do it 25 per cent. cheaper than I can turn it out in my pressroom, and I propose to save that and let you wear out your presses." Such talk, backed up with the orders, will often set the newcomers in business to figuring, with the result that they learn a thing or two, and are educated to a higher plane.

I believe that Benjamin Franklin was the first American printer to adopt the theory of treating a competitor with absolute fairness. When he began publishing a newspaper in Philadelphia, his competitor and predecessor in the field controlled the post-office, and used the mail carriers for the delivery of his own sheet, but denied the service to Franklin. When, in the course of events, Franklin came to control the post-office, he accorded to his rival the same privilege that he then enjoyed for the first time for his own newspaper. The public like to see fairness in business, and they will avoid patronizing a mean man. Franklin understood this and so should every man of types.

A good motto for every employing printer would be this paraphrase of the Golden Rule: "Treat your competitor as you would have him treat you."

CHAPTER XIV.

PROFIT, AND HOW IT SHOULD BE FIGURED.

THE object of doing business is to make a profit. The man who confuses profit with salary earned makes a mistake, for every man who has the ability to run a business can command a good salary without risking any money in trade. The printer embarks in business and takes the risks in order to earn more than a salary. The man who gets only a salary out of his business earns no profits; usually he is even less independent than the man on salary, for in every customer he has a master, instead of the one master he would have if employed. To get at real, actual, net profit, it is necessary to allow a sufficient interest on the capital, and six per cent. has been commonly regarded as the proper allowance for the use of such capital. In the printing business it is also essential to make allowance for the replacing of the type every five or six years, and of the presses every ten to twenty years.

It is not really very difficult to figure out these things, and thus discover when there is a real profit, yet a vast number of master printers never go into such details, and are prone to deceive themselves in such fashion as this: "My books show that I have drawn \$2,000 this year, and have \$200 more in the bank than a year ago, and an excess of \$300 balance of good

accounts receivable, as against the balance last year, and have bought \$700 worth of new material; therefore I have made \$3,200 this year in clear profits—not a bad showing on a business in which I have \$15,000 invested—in fact it is just $21\frac{1}{3}$ per cent.”

Such talk is very plausible, but may be entirely deceptive. On such a showing a plant may be losing considerable money instead of paying a profit; let us look at the details: In the first place, a man who can run a \$15,000 plant successfully is worth \$2,000 salary. He can get such a figure in almost any large city in the country, so we must charge off against the cash surplus as follows:

Salary of proprietor,	\$2,000	
Six per cent. interest on \$15,000,	900	
To keep plant up-to-date and serviceable, . . .	1,500	
To make up balance of depreciation,	750	
Total,		\$5,150
<i>Per contra—</i>		
Cash drawn,	\$2,000	
Cash in bank,	200	
Balance on books,	300	
New material added,	700	
Total,		\$3,200
This shows an actual loss for the year of . . .		\$1,950

These figures exhibit what may be the cold facts in such a case. It is very natural for a printer proprietor to assume, from the fact of his cash balance having increased, that he is making money; but there comes a time when he must replace his machinery and renew his type, and if he has not provided for this from year to year, he will learn in due course that he has had no actual profits, for he will have no money with which to replenish and continue business.

How is the printer to avoid this misleading of himself? How is he to know that he really is or is not making a profit? Only by keeping in exact touch with the condition of his plant, and learning just what it is worth every year, and discriminating carefully between gross profit and net profit, can he be sure that he is making money. He must always bear in mind that the gross profit is not the real, actual profit. It is only after making the deductions stated above that one can get at the net profit, which is the actual thing.

In order not to be misled in calculating profits the printer should be very careful in estimating and placing valuation on plant and material. As soon as type or presses are placed in use or operation there is a depreciation in selling value. It would cost the original price to replace the material, yet it has lost in intrinsic value. Sold under the hammer it would bring less than half the price recently paid. This condition makes it very difficult to decide upon a precise valuation. The methods of calculating depreciation vary almost as much as the men who make them. From the very nature of the case, there can be no exact method of determining the loss to printing material by wear and tear, want of use, lack of modernness, etc. Some houses will charge all small type bills—as for sorts, or for type ordered for a special job—to the general expense account, on the principle that such purchases are a necessary and continually recurring item, amounting to about so much for so many thousand dollars worth of business. This method may be a good one in so far as it assists in obtaining a true idea of profit in the yearly balance; but it is bad in that it leads to charging all jobs with

a percentage of the cost of sorts, etc., that are required for only a certain proportion of the jobs.

My own idea is that type bought on purpose for a piece of work should have half its value marked off and charged to the job, and that new type that has steady use in an office should be marked off 25 per cent. in value as soon as it is in the case and in general use. Machinery also depreciates rapidly, though it wears longer than the type. There are nowadays so many improvements made in presses that it often becomes desirable to discard machines before they are half worn out. It is not uncommon to see cylinders sold for \$300 or \$400 that were once worth \$1,500 to \$2,500, and which are yet good machines, their only fault being that as money earners they cannot compete with the latest products of the manufacturers. All these things must be allowed for in calculating depreciation, and while in sixteen years nearly all the value must be figured off a machine, yet in some cases its value would depreciate to nearly nothing in half that period, and in others it might retain considerable value for a much longer time. Existing conditions must be considered in placing the value of machinery and calculating its depreciation. If a press builder makes a cut in price of fifteen per cent., users of his machines must figure off the equivalent not only from the presses of his make that they are using, but from makes that come into competition, and which are certain to be affected by the cut in cost price.

There may be those who think that careful calculation of depreciation is unimportant, as affecting only the interest on the amount involved. In other words, they think that if a plant is placed at a valuation of \$10,000

or of \$8,000 in a balance sheet, the difference involved is only a question of earning interest on \$2,000. This is a wrong view. The printer has to deal here with principal and not with interest. If he overvalues his plant by \$1,000 as compared with the previous year, he deludes himself as to \$1,000 of profit or non-profit for that year. If a plant is overvalued for a series of years it presents on the books a misstatement of the profits during that period, since the excess of valuation must be divided amongst, and deducted from, the gross profits of those years to show the net or real profits. Depreciation must come out some time in actual cash, and if it is not figured out at proper times the printer thinks that he is making more money than he really is, and is led to take work too cheaply, to the eventual ruin of his whole business. The danger of such a result is present with every master printer who does not keep a watchful eye on the manner in which he figures his profits. How many, many, printing houses we have all seen go to the wall very largely through this misunderstanding as to what were the actual profits! It is a pitfall that threatens every beginner in business, and I cannot too strongly urge upon such the necessity of exercising extreme care to avoid self delusion as to real earnings. Unless a printer can make a correct balance at the end of each year—or oftener—he cannot know what are his profits, or whether there are any profits, until a period of years have gone by, when the lack of means to keep up his material will tell him the story only too plainly—and then it may be too late to save things by the knowledge that should have been his during the regular progress of his business.

When a man puts \$15,000 into a printing plant,

and works that plant for ten years, to come out even he should get back out of it:

An adequate salary;

Six per cent. for interest;

A sum to keep his plant up-to-date, which amounts to an additional ten per cent.; and

A sinking fund, which together with the market value of the plant, will be equal to the original investment, and represents five per cent.

And to come out ahead, which is the object of doing business, for which the risks are taken, he should get an additional profit, and

Ten per cent. on the original investment ought to be little enough.

This is not an extravagant statement, but expresses very moderately what should be the actual results.

Such a plant as that referred to, representing an original cost of \$15,000, should yield in ten years \$66,500 of gross profits; that is:

\$20,000 salary;

9,000 interest;

15,000 to keep the plant up-to-date;

7,500 to make up balance of depreciation, and

15,000 profit.

Divided by years this is \$6,650 a year of gross profits. If the printer finds that he is not getting such a return out of his business, he should find out at once why he is not securing the profits that are rightly his, and either arrange to make such a profit or admit to himself that he has not the capacity to make his plant do any more than pay him a salary.

A knowledge of the cost of producing printing is requisite to the earning of profits, and a careful study

of the chapter devoted to that subject is recommended to the readers of this book. Let the master printer always remember that while actual cost includes salary, interest, etc., yet that the price to the customer must always bear an extra margin to allow for the profit. There may have been a time when printers were simply workmen looking for days' wages, and when a profit was not considered necessary so long as a living was earned; but that day was before the introduction of improved machinery. A cobbler or a barber can afford to work for wages where no capital worth mentioning is risked in the business, but the printer of the twentieth century finds it absolutely essential to invest a large amount of money in perishable goods in order to produce good printing economically, and only by making a positive profit from every job can he hope to be a gainer in the long run.

The printer who neglects to charge a profit on side lines is simply doing work for others for nothing. Why should he take orders for engraving, binding, ruling, paper stock, etc., and furnish the capital or credit to secure them, without charging for the risk and labor involved? A part of the general expense of a printing office is properly chargeable to such side lines, and they should also bear a percentage for error, accident, insurance, etc. If an office does \$100,000 worth of business in a year, and \$10,000 goes for office salaries, collecting, bad bills, etc., a proportion of this \$10,000 should be borne by the work that is done outside. If the \$100,000 of work represents \$20,000 of paper and \$10,000 worth of binding, ruling, engraving and electrotyping, we should then charge \$3,000, which is ten per cent., against this outside work to cover cost, and when we add the

profit, fifteen per cent. or \$4,500 is little enough. The printer cannot afford to figure to get less than fifteen per cent. out of these outside lines. Since it is not practical to charge more than ten per cent. advance on large orders for paper, it becomes necessary to charge more than fifteen per cent. on small orders to secure the proper average margin on all outside work. On items of \$5 and under, an advance of twenty-five per cent. or even more is proper, because there is always some extra time and bother attached that cannot be charged for directly, but which must be made up in some way.

Few printers will neglect to add the charge of five per cent. to paper to cover waste, because that is a direct expense that must be paid for in advance by buying more paper than has to be delivered on the finished job. Five per cent. for waste may be a little high for long runs on plain work, but it is too little on color work or short runs. But because the handling of paper is an indirect expense, many printers neglect to charge the extra ten or fifteen per cent. for buying and carrying, and being responsible for it. Because the expense is indirect, it is none the less real, and must be met and paid for in the long run. If customers object to paying this percentage on the cost price of the paper, it is well to remind them that they are getting the benefit of the printer's knowledge, as well as shifting upon him certain risks. If the customer buys direct of a paper dealer he may save a few cents on a ream, only to learn that he has selected a grade of paper that involves a greater charge for presswork, as do some plate papers; or the customer may commit the error of buying paper to size, when the presswork

requires that it be bought double size, thus doubling the number of impressions he has to pay for. Blunders of this sort are avoided when the printer does the buying, and a little judicious explanation of these points will show the customer who wants to buy close that it is as well to pay the printer's advance on such side lines, and thus insure the quality and correctness of the product.

In engraving and electrotyping work, the printer almost invariably is called upon to give a portion of his knowledge to the benefit of the work, and he is entitled to his pay therefor. While fifteen per cent. is the ordinary advance to be charged the customer on these lines, there are times when it is proper to charge much more. Suppose, for instance, that the engraving is of an elegant grade, requiring careful choice of the best methods of drawing, photographing, processing, selection of paper and ink, etc., then the printer who oversees all these items, and makes them harmonious, is entitled to charge a further advance. Remember that this advance should represent more than a return for the extra labor; it should include an extra profit, for without that profit the printer has no business to bother with these side lines.

The printer should ever bear in mind that the time to make a profit on work is always *now*. Deferring a profit is simply a way of losing a profit.

Knowing what cost is, and what is requisite to the production of profit, it only remains for the printer who would be successful to see to it that the profit is never sacrificed on the work going out of his establishment. By following this rule he has a sure thing, but in order to follow it, he requires to know what is cost and what is profit.

CHAPTER XV.

BUYING.

ONE way of adding to the earnings of a printing office is to buy with judgment. We all know printers who habitually pay five to ten per cent. more than they should for the goods they buy, through pure shiftlessness, never looking about for closer prices, and never discounting a bill to get the lowest figure. Though they pay the highest prices, yet their custom is not sought by dealers, as they are slow pay—they cannot well be otherwise—for they make so little that they are always behindhand with everything. There are printers of a better grade, who do good work and make a profit thereon, but who have no talent for buying, accepting almost anything that a glib salesman chooses to talk off to them. They buy stock that they do not need, because they are told that “this is a job lot,” and then the stock lies on their hands a long while, and is finally worked off at a loss.

The master printer in doing \$10,000 worth of business usually spends \$5,000 for labor, \$2,500 for stock, and \$1,500 for other matters; in other words he buys nine-tenths as much as he sells, and therefore he should exercise as much care in buying to get a profit as in selling to get a profit, else he cannot compete successfully with others who are careful buyers. In purchasing

labor he should seek not to buy it cheaply but to get that which is best for his work. A three-dollar-a-day man is often cheaper than another man at two dollars. Of course no employer can afford to give all his profits to his men, but he can afford to be liberal with those who appreciate liberality and work to give him results. That is the kind of labor to buy. This feature is dealt with more fully in the chapter on "Management of Employees." Just now we are concerned only with the actual buying of labor, and endeavoring to emphasize the point that here a wise economy calls for quality first and price later. Where the matter of wages is regulated by union scales that it is unwise to interfere with, judgment is called for in the selection of good workers, and the ability to pick out men of the right sort is quite as valuable as the capacity for keeping them engaged.

The buying of paper stock calls for wide experience. A paper which superficially appears to match another is sometimes a very inferior article. A buyer of stock must have more than a common knowledge of sizes, weights and qualities. He should have means of knowing when a paper is up to weight or when it falls off so as to guard against errors. A good pair of scales will soon pay for themselves in almost any printing office just by detecting errors in weights. It is not good business to assume because your paper dealer is honest, that clerks who sell the goods by the marks, will always furnish you with the weight and quality billed; the right way is to have a system of proving what you get, which serves as insurance, protecting all concerned.

When we bear in mind that paper costs all the way from two cents to fifty cents a pound, that the sizes

are arbitrary, and that the names are often of not positively established meaning, and that the quality put into a grade may vary slightly with each mill producing that paper, we must recognize what an uncertain quantity paper is, and how much judgment the buyer must exercise. While it is desirable to buy close and take advantage of occasional bargains, it is safest to place large orders with concerns of established reputation, rather than to seek lower prices from those of whose responsibility you know nothing, since it is always possible for the latter to take an order at any price necessary to get the job, and then to fill it with something that can be furnished at that time for a profit.

The printer should be very careful in buying large lots of paper, with which he has little experience, to be used with special inks. It sometimes happens that the paper and ink are not adapted to each other, and if this is not discovered until the last moment, when the job is on press, and paper or ink has to be changed, there is a resultant loss of time of men and machines, cartage, etc., that may be serious. Whenever a job involves bringing together any paper and ink whose adaptability is not known, such should be fully established before making the purchase of either the ink or the paper.

Very few printers are judges of the value of inks. Only a considerable experience with a grade of ink will show the printer about what it is worth to him; he cannot know that the quality of a grade has been reduced until after he has stocked up with and used an inferior lot of it. The best way is to buy of a reliable house, have them adapt their inks to your papers, and give them your trade as long as they serve you

reasonably and acceptably. Avoid buying job lots of ink; they are seldom cheap.

In buying type, the average printer requires to exercise more care against his own weaknesses than against the founder's desire to make money out of him. Buy large fonts and in series in preference to small fonts and odd lots. If possible, buy your type at considerable intervals, and in large lots, rather than in small dribblets, a little every month, as by the former method you are more certain of securing everything in harmony.

Never buy second-hand type; it is dear at any price.

In purchasing machinery, consider first its adaptability to the work in view. It is a waste to buy a four-roller press for cheap newspaper work; but a press that is cheap may not be suited to turning out a cheap grade of work, if it be also slow. Having decided on the sort of presses you need, try and make your choice on your own judgment rather than on the arguments of those who want to sell you a particular machine. If you are favorably inclined toward a machine but do not know its points thoroughly, and are conscious that you are not fully aware of its merits and demerits, go and talk with one or two unbiased parties who use similar machines. Thus you will protect yourself. Remember that it is the salesman's business to sell you a certain press, but, that it is your business to buy what is best for you. Always give the preference to makers of reputation and standing, and beware of being the first to try a new machine. It may turn out to be a good thing, but the chances are that the first machine or two of a new kind will bother the purchasers more than they save them.

The printer who is well up in machinery, and who perhaps has personal knowledge of the condition of a certain press that is second-hand, may often find a bargain in presses that have been used. But, unless you are very sure of what you are getting, the new machines, with a guarantee from a reliable maker, are the best to buy.

Care should be exercised to avoid purchasing anything that is going out of use, as type that is out of fashion, machines that are no longer built or that are being superseded by improved styles, paper that may not be in regular demand, etc. By reading the trade papers and keeping up with the progress of the art a printer may qualify himself to exercise a correct judgment as to when the value of anything is depreciating from lack of use, and thus guard against stocking up with articles that are not up-to-date.

There is only one good way to buy, and that is for cash. In all lines the cash will secure discounts that are greater than the six per cent. value of borrowed money, because the man who sells has to charge credit customers for collections, etc. Discounts of from two to twenty-five per cent. are continually offered the printer for prompt cash, yet it is believed that a large majority of printers fail to avail themselves of these discounts, in which there is just as much profit as there may be in the work they handle. Where is the sense in a printer's buying \$1,000 worth of labor, paper, ink and incidentals for a customer, to make ten per cent., and begging himself so that he loses discounts to the amount of \$100? Yet many a printer will grab at the \$1,000 job, giving long credit thereon, and hustling to get it out, and never give any special attention to the losses

he sustains from not being able to discount his bills. It is not too broad an assertion to state that the printer who has the cash can average to save \$50 to \$100 on every \$1,000 he spends, as compared with the printer who has to ask long time and who gives notes.

The printer requires to be careful not to buy beyond his immediate needs. A sudden rush of work may cause him to think that he requires a new cylinder, but by the time it arrives the rush may be over, and he will be tempted to go out and cut prices to get work, thus damaging trade generally to get the money to pay for a machine for which he does not have real use. Unless there is a certainty that the work is there for a machine it is much better to take care of a rush of work by either putting on a night force or turning some orders over to a neighboring printer on whom you can depend.

There is a science in knowing when to be liberal and when to be close in buying. When paper stock or machinery are on some one's hands, and hard to move, the holder may accept an exceedingly low offer. At other times, the printer who tries to buy too closely may overreach himself, for if his trade affords no profit, good houses will avoid him, and he is forced to deal with the irresponsible and to accept poor service. Those who sell to the trade must have a fair profit as well as the printer, and it is not good economy to try and deprive them of such profit; the real economy consists in buying only what you have use for, at a fair price, and with all the discounts that cash will bring.

CHAPTER XVI.

DOING GOOD PRINTING.

WHILE this book is designed to treat only of the business or money-making side of the printing industry, and not of the technical side of the art, yet it is so imperative that the successful printer should do good printing that a chapter on this topic seems requisite to rounding out the subject completely. It is assumed throughout that the readers are good printers, who know their trades properly—anyway it is not the writer's mission to teach the intricacies of composition and press-work. Yet, there are many pointers as to the doing of high grade work, that are of a semi-business nature, involving the policy of an establishment, and these it is desired to discuss at this writing.

To do a high grade of work the printer must have: *First*, selected men, who are each and all specially good in their respective lines. With superior taste in composition, accurate make-up and proof-reading, and pressmen who know their trade thoroughly, we have all the essentials of perfect workmanship. *Second*, a red tape system of passing upon or approving each feature of a job as it progresses through the establishment. This greatly reduces the vexation and loss incident to errors, not only typographical, but in number of sheets, character of stock, etc. *Third*, inks furnished appropriate

to the papers employed, and good rollers supplied as wanted. Without these the pressman is powerless. *Fourth*, a relentless system of discarding poor or spoiled sheets. Even one per cent. of poor sheets delivered to a customer detracts seriously from a high class job. *Fifth*, the maintenance of a good summer temperature in the pressroom. It is not right to expect good results unless this is furnished. *Sixth*, an intelligent supervision of the whole establishment, to insure harmony between departments, and keep everything running smoothly. *Seventh*, the proper material and machinery. With all these a high class output is assured; while with any one of them lacking, an inferiority in production is always likely.

The printer who would be successful must bear in mind that he cannot put himself in the position of being able to do the best work at a minimum of cost unless he provides the best material. If he starts in with an old plant he is seriously handicapped, for he is virtually obliged to give customers old type-faces when new ones are preferable; or he may be unable to give perfect register on color jobs with old and worn machines. The highest touches of the art are only possible to the concern that can furnish the latest and best products of the foundry, and print them on up-to-date presses. In striving to do the best work the printer will find himself severely handicapped if he has not such an equipment.

The retaining of some man of superior taste to direct the character of the work is an essential sometimes overlooked. I have yet to learn of an establishment that has secured a reputation for fine work that did not include in its *personnel* some one peculiarly

gifted with artistic sense, to control and dictate the style and quality of the output. Such a man must possess characteristics of originality, and an appreciation of that which is really good art in printing. If the proprietor of an office recognizes that he has not these qualities, he should, if possible, secure the services of some one who has such capacity. At the same time he must be careful not to let his artist-printer run away with him in zeal for the production of the beautiful. The printer who becomes so engrossed in the execution of fine work that he forgets that he is doing it for a profit, may be a true artist, but he cannot make money. The business management should be such that superior taste and ingenuity in printing may be available at all times to the customer, but only for a fair price and not for love of the art.

It is well for an office to acquire a distinctive style for its commercial work—a something that will come to be recognized generally by those who observe fine printing. It may be a running on broad bands of border, or ornate initials, or embossed headings, or any other one thing good in itself that has not been “run to death” in the locality. We must recognize that there are fashions in taste in printing as in everything else, and that these fashions are set by the printers themselves, though often unconsciously. There is no good reason why they cannot be set deliberately as well as accidentally. If the leading office of a city will decide on a style and run upon it conscientiously for a year or two, it will be found that all the small, surrounding printers will be copying that style. Then it will be time for the leading printer to consider working up another style, in order to keep ahead of the procession

and cause business men to recognize that he is the leader.

This setting of a style of commercial work acts as an advertisement for a house and costs next to nothing. In fact, I am not sure but it is an economy, for it enables the printer to use one line of material continuously, and accustoms the workmen to obtain the effects with the least labor. When the style runs out the material is well worn and may be returned to the founder as old metal, and a new lot bought to advance some newer style. Within a few years there have been runs on deckel-edged paper and Bradley type that have pretty much swept the country. In the course of events these will give way to other things, and in twenty years printers may look back with wonder and be surprised that these things ever were stylish. That this is probable may be proved by looking back at the specimens of ornate printing of a decade or two ago, which are strange and ridiculous to the eyes trained to modern effects. This is in obedience to a law of human nature that craves change, and to another law that results in imitation, producing what we call fashions.

The printer who can set the fashion for his locality is bound to achieve a reputation that will bring him the chance of doing most of the high class work that is executed in his territory. There may be printers who will do as good work as the printer with a reputation, but they do not stand the same opportunity of getting high class jobs as the printer who has cultivated his reputation by leading taste and fashion.

The difference between an ordinary job and a high class production often involves very little additional cost, and yet it counts for a great deal in reputation and

the bringing to an office of other work that will pay well. The selection of good papers has a large bearing on the result, and as the cost of the better grades comes out of the customer, the printer ought always to be willing to advocate good papers, knowing that by their use the work will be made more satisfactory. In the choice of inks the printer can improve his work by judicious use of others than black. The blue-blacks almost always look better, as white paper always inclines to either blue or yellow, and in either case the suggestion of blue in the black ink is beautifying. Another good effect is always obtainable by the plain lake-red rule around pages, that has a never-tiring beauty, placing the work on a higher plane. By suggesting these things to customers they often may be incorporated in orders, and thus tend to elevate the average of work turned out and add to the profits.

Carefulness in excluding spoiled sheets from those delivered to the customer adds another element of reputation for high class work. The office that desires to secure or maintain a place among the very best printeries must also be always alive to the keeping up with the new things that the founder produces for ornamenting work, and bringing them before the public ahead of others.

The use of wide margins is a very neat and costless way of improving the appearance of work, that is far too much neglected. A wide margin always gives a rich effect; a narrow margin always has a cramped, skimpy, cheap effect, and if the body type is large, the ill effect is strengthened. The employment of ornate faces for body type is another method of elevating the character of work. By purchasing 100-lb. fonts of a

few handsome faces in sizes from six to eighteen point, the printer is able to set up a great deal of commercial work in a manner that is much more ornamental than if the body matter were set in the ordinary romans or old styles.

It is well to keep at hand a supply of samples of pretty half-tone illustrations that are available for use in adding to the attractiveness of work. Occasionally such can be introduced so as to add materially to a job without increasing cost, and more frequently they serve to develop some idea in the customer's mind for the preparation of original half-tone illustrations for the embellishment of the job under consideration. When the illustrator is thus called in to increase the beauty and attractiveness of the job, the printer not only gets his percentage on the engraving, but his office gets the credit of the improved character of the work.

In aiming to produce superior printing, the printer must not neglect to provide himself with specimens of the efforts of leading printers in other cities. If he be deficient in originality he can always borrow plenty of ideas in this way, without infringing any copyright or courtesy of the trade.

No office can hope to lead in quality of work that does not exercise extreme care in every department to insure the production of clean work. How often we see otherwise handsome jobs marred by a few leads sticking up or by smuts on the margins! The avoiding of these is not a question of art, but a matter of vigilance in overseeing the minor details of production.

In seeking to add to the high character of small work without largely increasing the cost, the wise printer will always bear in mind the facility with which

two colors may be run at once on a jobber on the turn-and-cut principle. This is a trick too seldom practiced though generally known. By cutting out the composition in the centre of the distributors, on a jobber having cylinder inking apparatus, a different color may be run on either end of the press, and the form be divided to suit. This method is economical in running small jobs of one thousand to five thousand impressions, requiring a tint on a certain portion of the design, or one line in red to make it particularly effective.

In order to improve the effectiveness of the large work in an office, especial attention should be given to type designs, headings and covers. A little extra expense of \$25 or \$50 on a \$500 job often adds one-half to its general effectiveness. A fine cover may hide a multitude of shortcomings. The longer the run the less is the proportionate extra cost in perfecting the designs that go to make a book or magazine attractive. Good book-work is produced by extreme care as to well-known details; good magazine or pamphlet work is largely dependent upon the quality of the illustrations, the margins, cover-coloring, etc.; good commercial work is dependent upon taste in composition and care of details. Only by having efficient help in all departments and by the infusing of personal genius and unique characteristics into the work can an office expect to take front rank as a producer of high class printing.

CHAPTER XVII.

THE COMPOSING-ROOM.

It is generally admitted that the composing-room of a printing office is the most difficult department to run at a profit. The chances and opportunities for wasting time are so great, and the temptation to take composition at cost to feed the pressroom is so strong, that a vast number of composing-rooms are run year in and year out minus any profit, and many of them at an actual loss. This is a wrong condition of affairs, that appears to have been aggravated rather than improved in many instances by the introduction of composing machines, which with proper management should have relieved the situation.

In order to make a composing-room pay, the first essential is the proper arrangement of the material. Too often the stands, stones, cabinets and cases are placed about "any old way," without any real plan for convenience, whereas nothing in the printing office calls for more care than the locating of all material where it may be used without loss of time. The largest item of expense in the composing-room is the time of the employees; it can be saved by good light and short travel between display cases, stones, etc.

A composing-room should have plenty of light, and if the windows are not close together more should be

put in. For artificial light, the best is the cheapest. A cent an hour for an incandescent electric light is of no consequence if it enables a compositor to do a cent's worth more work in an hour than some cheaper form of light. If there are not windows enough to give a satisfactory light during the daytime more should be inserted in the walls. When good window light is provided for, the next essential is the placing of the stands by the windows in such a way as to secure a good distribution of light on the cases.

It is a very poor arrangement to place stands in a line too deep beyond a window, in a room with a low ceiling, so that the workman at the further stand receives only a half light. When such space away from the windows has to be filled with stands, these should not be used for regular composition, but for cases of occasional use, that it is desirable to keep out of the racks, as head letters, italics, etc., on which there is considerable demand.

In casing display type the wise printer will avoid using cases with very small boxes, as the space saved is more than lost by the time wasted in getting out the types from the little boxes, which are too small for the fingers. It is also a mistake to place cases very high or very low in cabinets or racks, because it is cheaper to provide more floor space than to tire men out sitting on their heels or climbing step-ladders to set up lines.

In locating stand-galleys and banks much care should be exercised in order that time may not be wasted going back and forth between them and the cases. This also applies to imposing stones, rule cases, lead and furniture racks, etc. Each should be placed

with a view to saving travel in setting up, proving, making-up, and the like.

There is good economy in having plenty of material and keeping it in the cases as much as possible. The effort to economize on a few dollars' worth of sorts often results in wasting double the value in time. The lack of an extra proof-planer, lead-cutter, benzine brush and such trifles, often causes a great waste of time. Where is the sense in paying a man thirty cents an hour to tie and roll up bits of twine for page cord or to chase about looking for a ten cent sponge? And yet negligence in such little matters as these is apparent in three composing-rooms out of every four.

It pays to have plenty of labor-saving contrivances, plenty of quads and sorts of all kinds, plenty of chases, plenty of everything and anything that saves time. And it is just as important to keep material where it can be used readily as it is to have a good assortment in stock. For this reason it is a bad policy to keep many forms standing. Some will argue that by keeping type standing there is often a saving by reason of its being ready for a further edition, should one be demanded, but this view ignores the loss of convenience that arises from the releasing of the sorts. Nothing is more wasteful than time spent in picking sorts. I abominate this practice, and would rather see a compositor looking out of the window at a circus parade than hunting through forms for sorts. The former occupation at least has the merit of brightening the man's spirits and rendering him capable of more cheerful effort after the last elephant and clown have passed out of sight, whereas the latter practice is not only a dead waste at the time, but may cause a loss later if

the sorts have to be replaced, or if their removal causes a pi.

In a large office the only good way of securing proper distribution is to put a competent man in charge of it, and make him responsible for the condition of all type-cases and supplies of sorts. He should have such help as he requires; often apprentices or boys will do very well, and can be used to advantage if they are painstaking, as care is required rather than skill. I do not believe in placing compositors on the dead stone when work is dull, as this invites loafing; though I recognize that all rules fail in emergencies, and that there are times when a foreman has to put all hands on some rush work, neglecting distribution for a day or two, and then put a few compositors on distribution to wipe out the accumulation. The system is bad in principle, however, and when rush work requires such action an extra charge should be placed in the bill for upsetting the routine of the office.

Men are all different, and must be handled intelligently and not as machines, for a knowledge of men is of great value in the composing-room, in order that they may be used so as to make the most of their talents, dispositions, etc. It is quite as important to distribute the work properly among the compositors as it is to distribute it suitably among the presses. By recognizing the different ability of particular men, and keeping each as far as possible in the line of work in which he makes the greatest progress, general results may be considerably increased. A man with a special knack for imposition should be kept at stone work, in preference to allowing each compositor to impose his own forms. In every fair-sized office there are generally one or two men who

can do tabular work twice as fast as some others, though the men who fail in table work may be efficient in other regards. With a force of compositors on miscellaneous job and book work, it is the business of a foreman to know who can handle display work with the best results, who can set figure work expeditiously and accurately, who are the fastest compositors on straight matter, who will prove most useful on distribution, corrections, and all the various details of work in the department. By remembering these things he can apportion the work most advantageously and secure the best results for the talent in hand.

Most master printers fail to appreciate fully the great amount of time expended in the composing-room on other work than direct composition. Nothing but an accurate record will convince the average proprietor of the actual facts as to his composing-room. I have before me a composing-room record in which the showing for six years is that the distribution required almost half the time of composition, and that the distribution, proof-reading, corrections and make-up taken together equalled the composition proper. This tabulation did not take into account any superintendence or fixed charges. It is probably an average showing and demonstrates that there is an immensity of work outside of direct composition upon which economy may be exercised. Another proof of the amount of this often disregarded labor is found in the record of a number of large New York offices, demonstrating an average cost of twenty-seven cents per one thousand ems for handling type matter after the compositor had earned his wage for setting and correcting. There are master printers who hold the idea that this doubling of the

direct labor of composition is unnecessary, and that by hustle and extra good management they can avoid most of it. This is a delusion; by good management the indirect costs of composition can be kept down, but they cannot be diminished to any considerable extent. Superior management may check a variety of small leakages, as variously suggested in this chapter, and whatever cost is cut down by labor-saving devices and close watch over details, should go to the printer in increased profit. Because I hint at a variety of ways in which this secondary cost of composition may be reduced, I hope no reader will draw the inference that I believe that the cost of composition can ordinarily be kept down to less than double the original time cost of setting up matter, except in newspaper offices, where there is full copy and every convenience for rushing. By basing charges on the actual experiences of many offices you are safe, and if you can reduce a trifle of cost here and there by close management, you have earned it and it should be yours, not the customer's. Never, *never* gamble in advance on the cleverness of your management, by making prices upon the assumption that your cost will be less than that of your competitors with the same facilities.

Where composition is done by hand, the piece system is almost always preferable, purely on the score of economy. To illustrate: In a city where the piece scale is thirty-five cents and the week scale \$16, a compositor working by the week must set almost 46,000 ems to earn his \$16. This is much above the average production, as week hands cannot be expected to average above 35,000 ems unless there is much fat matter, and they will not do that on lean, solid type. Piece hands

will set more type in the same number of hours than time hands, but even piece hands cannot be expected to average 40,000 ems weekly on book work that has to be evenly spaced.

In machine composition opinions differ as to the advisability of employing men by the week or piece. The time of a machine is so valuable that only fast keyboard operators are wanted and employers will cheerfully pay more for fast men than for operators of moderate speed. The consequence is that operators have the same stimulus to show results as when working by the piece, and there has not been observed any real difference in product. There are probably as many employers and as many employees who favor the week system as the piece system on the machines.

Time can be saved in the composing-room by demanding good copy of customers, or by arranging it properly before it goes to the compositor. In these days of cheap typewriting, the printer is entitled to good, clear copy at all times, and when a customer offers bad copy, it is best to tell him that it will waste a great deal of the compositor's time, which must be charged for some way, and that he had best have it typewritten, or that you will have it done for him. A little judgment exercised here will often save lots of waste in the composing-room. It also avoids disputes with customers that may arise from a misreading of poor manuscript. The compositor cannot be expected to get up a good string from illegible copy, and when it is obviously delaying, he may not care to try, as he has such good excuse for going slowly.

In some composing-rooms there is much waste because of a needless regard for style, as in capitalization,

hyphenating, division of words, disputed spellings, and the like. This usually emanates from the proofroom, where an office style has been developed, and which comes to be insisted upon, without regard to economy or common sense. It is essential to maintain a style throughout an entire book, but every job done in one office need not follow that style. The effort to preserve office style through miscellaneous job work simply results in needless waste. If the style of an office is to spell *centre*, *theatre*, etc., what matters it if in a particular job some compositor spells the words *center* and *theater*? Both spellings are authorized, and the customer is unlikely to care a rap which is employed, or if he is suspected of caring, the guide to his taste is found in following copy, rather than in following office style, regarding which he probably knows nothing. In the matters referred to, any commonly accepted style is as good commercially as any other, and if the compositor has set a job uniformly on any reasonable system, it is a waste of good money for the proof-reader to alter his work simply to make it conform to his notions or the accepted office style. If a proof-reader manifests a tendency to be too strict in such matters, and to insist on particular spellings and divisions, he should be checked. It is all very well to have educated readers, but the printer is not in business to improve the English language at his own expense, and when a reader interferes with practical results, a little wholesome advice from the business office is in order.

In some book offices a great deal of time is spent in tying and untying pages of type in the period between composition and going to press. Especially

is this loss apparent in a class of work that is kept standing in pages, and subject to regular correction. Often great saving can be effected in such work by placing grooved wooden furniture around the pages before tying up, so that the page cord is entirely sunk in the grooves. This cord may then remain in when the form is locked and goes to press, effecting a material economy in handling the pages at various times without tying up or untying.

By applying the same common sense that dictates the above practice to other regular work, observing where special conveniences may reduce the time of getting it out and providing extra galleys, sort boxes, shelving, or anything of that sort that will expedite the work, further savings may be accomplished. In every large or regular job in the composing-room there are sure to be some ways and means for reducing the labor by taking note of especial characteristics of the work. It is a part of the duty of every foreman to use his brains and ingenuity in such matters, and to save time at every turn.

It is a debatable question with many offices whether it is best to put in composing machines, or to give out their straight composition to offices having machines, buying it on the galley. This is a point which each must settle for himself, according to his circumstances. It is certainly better for a small office to buy type on the galley than to incur indebtedness for machines which it has not the work to keep busy. The office doing a large amount of composition can save money by owning its own machines, but where to draw this line between the office that cannot afford to do without them* and the office that would be ex-

travagant in purchasing them, is a poser. The decision can be arrived at only by the parties interested, having all the minute details affecting the situation. It has been demonstrated that machines are a saving that varies with the class of work in hand, and the amount of saving on certain classes of work is to most printers an inexact quantity. Printers must be cautious in putting in machines not to overrate the results they can get, but to bear in mind that a composing machine is like a press, in that it must be kept running a large number of hours daily to produce the most economical results. In practice it is difficult to keep cylinder presses running half the time, and while we know that the composing machine can be kept more busy than the press, yet it is not safe to calculate that it can be occupied all the time. Copy will give out, operators will want a holiday, the power will break down, and so on; besides, there will be delays in changing sizes of type and measures, and a good many minor things not readily foreseen.

The printer who uses composing machines must beware of giving his profit to the customer. Where is the sense in buying costly machinery and then giving all the margin to the public? Machine composition ought to be furnished to the customer at the same price as hand-set, wherever conditions make it possible. Only on newspaper work is it reasonable for a customer to expect a lower figure. I am a believer in the machines; they mark a great step in advance in the printing industry; but I deprecate the disposition of printers to use them simply to cut prices and get work away from other printers. The proper way is to use them for what work you have and to secure to your-

self the profit they allow on that work, rather than to try and make a small profit on all the work in sight.

If a printer insists on doing all the work in his neighborhood on machines it is better that he should do it direct for his fellow printers than to go to their customers, for in this way he maintains prices, and a larger profit is secured to all.

Some one has said that success consists in attending to little things. This is particularly true of the composing-room, where a large and economical output can be obtained only by unceasing vigilance as to the minor details.

A few extracts from the "Rules and Usages of the Typothetæ of New York," regarding composition, seem appropriate in closing :

PRICES FOR COMPOSITION.

	PER 1000 EMS.
For weekly newspapers,	70 cents.
Plain book work—reprint,	70 "
" " " manuscript	75 "

Pages containing less than 1000 ems should be charged at an advanced rate as follows:

	PER 1000 EMS.
900 ems and over,	80 cents.
800 " " "	85 "
700 " " "	90 "
600 " " "	95 "
500 " " "	\$1.00 "

These rates apply only to ordinary composition in works containing 50,000 ems or more, in which the cost of making-up and composition can be reduced by the re-use of head and foot lines, and chase furniture.

Pamphlets of thirty-two pages or less, and all single-sheet jobs should be at the rate of \$1.00 per 1000 ems.

These rates include the work here specified and no more:

One proof on galley made correct to copy, free from typographical errors and bad spelling, and composed in a work-

manlike manner; one corrected proof made up in pages or columns.

Changes in proof that were not plainly indicated or ordered in copy or called for by a previously prepared and agreed schedule for style (such as the substitution of spelled-out words instead of figures, of capitals instead of lower case, of italic or small capitals instead of roman, or any deviation whatever from the copy) must be rated as alterations.

When a negligently-written copy has not been properly prepared as to punctuation, capitals, italic, etc., the printer should try to amend these faults, but his amendments, even though partial or incomplete, are to be regarded as a fair compliance with his contract. The printer's contract is for the mechanical work, and not for editing, even in as small a matter as punctuation. The standard rates of composition are for work that is to be composed but once, and not for work to be edited at the printer's expense. The contract is complete when proof is made correct to copy, or is amended in typographical style, as far as the ordinary compositor can amend it. Copy should be properly prepared, or if edited in the proof, it should be at the cost of the customer.

It is understood, however, that all work should be workmanlike as to spacing, leading, blanking-out, and uniformity of style on headings and sub-divisions. Failure to do workmanlike composition shall be at the printer's and not at the customer's expense. Book titles, dedications and displayed advertisements must be composed in a good style before proof is submitted.

All time work spent in the improvement of the style of composed matter, after it has been made correct to copy and approved of by the office, whether spent in alterations, reading, revising, proving or stone or plate work, should be charged as alterations.

Time work at composition should be charged at the rate of 60 cents per hour.

When composition is done on time an allowance should be made for proof-reading, make-up, distribution, etc., to be added to the time for composition at the rate of 60 cents per hour.

Jobs set in delicate or fragile type should be charged one-third more than for ordinary type.

All cuts introduced in composition, including full-page cuts, to be charged as text.

Over-running matter to insert cuts to be charged as alterations.

Standing type should be charged 5 cents per 1000 ems for a week, or 10 cents for a month.

Type kept out of use by delay of proof beyond reasonable time should be charged as standing matter.

Extra price matter should be charged double the extra paid to the compositor, in addition to the price for plain matter.

Special or unusual sorts that have to be bought for the work should be charged at cost. Composition of displayed advertisements should be measured and charged as brevier (no allowance being made for electrotypes advertisements that may be furnished), unless the difficulty of the work or the quantity of smaller type used calls for a higher rate.

In furnishing an estimate, or rendering a bill, no customer is entitled to prices in detail on the several items of composition, presswork, binding, electrotyping, etc., nor should any be given except under exceptional circumstances which in themselves would excuse a breach of business custom.

CHAPTER XVIII.

THE PRESSROOM.

THE largest investment of money in the printing office is usually in the pressroom, and this department can be made to pay only by wise management of machinery appropriate to the work in hand. The cylinder press is the great producer; the web press and the perfecter have their special fields, as have the platen presses, but most printers depend upon the output of the cylinders for results in the pressroom. The economical handling of these cylinders is therefore of the highest importance. At first sight, management of a pressroom simply means putting on the presses what work there is, and running it off in a workmanlike manner—and that is about all the concern that is exercised in many pressrooms; but to make money out of printing presses requires the use of brains and judgment just as in any other producing or manufacturing business.

In the first place it pays to have good machines, and when those in use are antiquated it is commonly best to throw them out and put in better producers. It is also well to maintain them in good order, by regular inspection, rather than to wait for break-downs, which are most apt to occur in seasons of rush, when they cause the greatest loss. During the dull summer months every large pressroom should employ a ma-

chinist to look over the presses and advise as to any parts that are giving out, and which require renewal or readjustment. In this way there is little danger of trouble with the presses during heavy runs in busy season.

In choosing presses, it is a waste to employ a high class \$3,000 two-revolution cylinder for newspaper work, when some old-style two-roller press will turn it out as rapidly. It is even worse to try and do half-tone work on a two-roller press, which never can give good results. Yet if an office has a modern four-roller two-revolution that is not busy all the time it would be better to put a newspaper job on it than to buy a two-roller press for that purpose, since it is economy to make the best use of what is already in an office.

Without good rollers and appropriate inks there will be much waste time in the pressroom, and carelessness in providing these should never be permitted. Do not economize on rollers, but get the best, and take care of them. Maintain a good heat in the pressroom at all times; as even a slight neglect in this particular results in large waste. If the pressroom in winter is not up to a proper heat until half an hour after the starting time, about a quarter of an hour's time of all hands is wasted. This is a point that is frequently disregarded in small and medium-sized offices. Every proprietor should see to it personally that a proper temperature is maintained in his pressroom if he expects to receive value for the wages he pays out.

A clear head is required in a large pressroom to give out the work to the best advantage, and good business qualifications on the part of a foreman are

often more valuable here than unusual skill in press-work. A prompt, accurate judgment is in demand all the time in overseeing the operation of a large number of printing presses. The responsibility is great, because so much costly paper is handled, and a very simple blunder often may result in a large amount of spoilage. To keep the run of the work readily the foreman should keep before him a sheet on which appear all the jobs on hand, and those coming, in order to make provision for them. Such a sheet may be made up this way:

SCHEDULE OF PRESSWORK—Friday, May 2.

Cylinder	press	A. Jones' Catalogue, 10-M, off by three o'clock.
"	"	B. Waiting for electros.
"	"	C. The Mirror, 7½-M, must be off to-night.
"	"	D. Brown's book, off sometime Saturday.
"	pony	E. Blotters, 20-M, off Thursday noon.
Gordons,	half	A. Clipper Club Menu, off about noon.
"	quarto	B. Smith's envelopes, 5-M, off four o'clock.
"	"	C. Idle.
"	eighth	D. Patent medicine dodgers, 12-M, off six o'clock.
"	"	E. Idle.

Forms waiting.—C., B. & Q. time table, 20 x 30, 3-M.

Picnic posters, 28 x 42, 200.

Thomson's blanks, 12 x 36, 2½-M.

Forms coming.—Jeweler's Gems, 3-M, four o'clock.

Carter's circulars, 50-M, Wednesday A. M.

Parker's billheads, 2-M 4s, Wednesday A. M.

Green's letter-heads, 8-M, Wednesday P. M.

By keeping everything before him on one sheet in this manner the foreman of the pressroom is able to plan ahead with certainty as to what forms are best placed on certain presses, and may be tolerably certain as to when each job can go to press. The system prevents slips of the memory, and enables the foreman to feel quite sure of what he is doing. As fast as

forms go into the chase-rack he enters them as forms waiting, and as soon as they go on press they are transferred to that head. By conference with the foreman of the composing-room once or twice a day he keeps up his list of forms coming, and prevents the springing of any surprises that tend to upset his plans. It is a very bad practice to go only by the chase-rack, and to decide when a pressman comes along what form he had better take; that is almost as bad as letting the pressmen help themselves out of the chase-rack, and take the job that most suits their fancy. By deciding all these things in advance on a system, the pressman may be often informed towards the close of a run as to what is coming next, and can make any preparations that are likely to expedite the work.

When a pressroom is crowded with work it is a good plan to pay the feeders extra to wash up and put on rollers before and after hours, so that the presses may be kept running full time; thus virtually gaining a half hour's production at slight cost. It is also well to stimulate pressmen and feeders alike to hustle, by close watch of their progress, offering premiums for quick runs, and a general enforcement of those principles laid down in the chapter on "Management of Employees."

A record should be kept of all work, and when the make-ready of a form is passed, at least two copies of the sheet should be filed, with the date, time, run and name of pressman and feeder written thereon, besides the foreman's and proofreader's O. K.'s. These filed sheets serve to settle subsequent disputes in case of spoilage, etc., and are convenient for reference in many ways.

It is the part of prudence to avoid purchasing new

machinery to accommodate a rush of work that may be temporary. Many a printer has added 50 or 100 per cent. to the capacity of his pressroom only to find that within a year he is chasing about cutting prices to get work enough to keep the machines going. It is better to have few presses and busy ones, than many presses often idle. In few pressrooms is it possible to keep the cylinders and Gordons actually running for more than one-third of the working hours of the year. Another third of the time is taken up in make-ready, and during the remaining third they stand idle. If a drive of work comes into a pressroom the production can be increased to meet the emergency by adding to the help on make-ready, thus obtaining more hours during which the presses can be kept running; and if there is a still further demand on the pressroom the machines can be run at night, without much extra cost, as the increased pay of the men is nearly offset by the saving in fixed expenses that need not be charged against night work. A further increase of orders may be met by giving presswork to some competitor who is not so busy. Only when it is evident that the increase of work is permanent should the proprietor increase the number of his printing machines.

There has been a tendency for many years to increase the size of presses, as it is evident that the economy of printing machines increases with the size of the sheets they will print. Though the largest machines are very costly and heavy, yet they produce work more cheaply when there is enough for them to do, and therefore they are in demand wherever there are long runs that may be made up for large sheets. Of course where there are constant long runs of small-

sized sheets, that cannot readily be doubled, it is best to use cylinders of moderate size, and if there is an occasional loss through inability to double up a form, it is compensated for by the continual saving in running a lighter and smaller press. The pony cylinder is a money-earner where there are plenty of short runs adapted to its size of sheet, but it is a considerable loss to use ponies on book work or the like, which might be run in large forms. The half-medium platen jobber is not so much favored as it was twenty years ago, but for short runs of work adapted to its size, I have always found it preferable to the pony cylinder, as the first cost of the machine is much less, and the help required less expensive.

The printer who tries to make money by running his presses faster than the builder designed them to run makes a mistake. As has been shown, the production of a pressroom can be increased in several other ways that are not damaging, and the over-speeding of a press is bound to break it up within a few years. There is an exception to this general rule where the work demanded is of an exceptionally hurried character, and will pay the printer for breaking down his machines and buying new. There are offices in Wall Street, New York, where this is done knowingly and profitably. Certain financial matters must be printed and sent out at the utmost speed, and cost is an inferior consideration. Cylinders are belted up to 3,000 an hour, and feeders specially trained to crowd in the sheets. The life of a cylinder that is regularly abused in this way is about two years; then it is thrown out, and a printer's machinist replaces some of the parts and sends it out as a rebuilt machine to some country

printer who wants a press cheap, and does not care if it is loose in the joints and shy on register. The Wall Street printer makes a profit by charging an extra price for the hurried work; but any printer who thinks he can save time enough to make money on ordinary work by over-speeding his presses, is doomed to expensive disappointment.

The master printer who would make money out of his pressroom requires to watch carefully the character of paper furnished by customers, and to give himself leeway in making contracts to charge time in cases where the paper makes trouble and delay. If the paper is extra thin it is hard to feed, and the press must be run slowly; if it is overcharged with electricity it may take just double time to run off; if it is rough-edged, it will require pointing to get register; if it is unduly or unevenly coated there will be bother and delay; if it is not cut squarely, there will be a lot of trouble in adjusting margins, turning and cutting; and so it may be with half a dozen other things, for all of which the customer should pay when he elects to furnish his own paper stock.

A careful record should be kept of all detention of presses, that they may be charged to the customer, when they are a consequence of his delays. The time of a cylinder is worth as much and more than that of the man who oversees it, as is fully explained in the chapter on "The Cost of Producing Printing," and if a press is held for overdue proof corrections by the customer, or for electros which he is to furnish, or in any other manner for which he is responsible, a distinct charge is proper; but only by making such things clear in advance, and by keeping an accurate record of such

delays, can the printer hope to collect for them without undue friction with the customer.

It is proper for the office to retain possession of all overlays cut for any job, in the absence of any contract to the contrary with the customer. Because the customer has paid for the time of producing overlays, they do not become his property, as he buys only the resultant job. He might as well demand of the printer the delivery of electros, which the printer had ordered for his own convenience in the production of the work. The storing of overlays and electros affords only a fair chance for extra profit to the printer on future orders. Where customers want to buy the overlays or electros produced on their work, a moderate charge is proper.

A great deal of the cost of a pressroom is involved in the time spent in making ready. The time required on a form is always more or less of an unknown quantity, yet workmen can be trained to great speed in overlaying by a judicious system. If you are conscious that there is too much time spent in making ready in your pressroom, look into some other pressroom, where you know they have to hustle, and observe the methods by which speed is induced and maintained. Both for common and extra fine work there is a vast difference between men who are trained to rush the overlaying, and those who go at it in a leisurely manner, with the conception that the work is so artistic as to require deep study and observation at each stage. The individual hustle of each pressman is the item where management may be expected to show most results.

The duplication of forms calls for considerable judg-

ment on the part of the printer. If it is desired to print 100,000 9x12 circulars, in determining how many plates he will make, and how many can be run at once, he has to consider which of his presses are idle. It may be that he can figure abstractly that the work can be done cheapest with sixteen plates on a large cylinder, but if his large cylinders are busy and a pony idle, the chances are that it is cheapest for him to make fewer plates and run it on the pony. It is not good economy to have hard and fast rules in all these things.

When there is a rush of work in the pressroom there is sometimes opportunity to effect a saving by placing two small jobs of the same length of run on one cylinder press, one on each end of the bed. The more clever the foreman, the oftener will he find such opportunities for saving labor.

Where an office handles a great many electrotypes plates, requiring much time for adjustment on the blocks for the press, so that one or more presses are run practically all the time with blocked electros, it is good economy to have special metal blocks made for the presses, adapted to hold any size of plate. These are high in first cost, but they save a great deal of time, and insure accurate register. As the blocks fit the bed of the press, it is possible to take off a large form and put it on again without losing register. They also do away with the great annoyance that comes from making up a form of blocks in which are a few odd sizes of plates, as of illustrations that run small, or advertising pages that run large.

In undertaking presswork it is very essential that the manager of an office should know all the ins and outs of the work, as there are so many items that add

to cost of production. For instance, forms of part type and part plates on wood bases always involve a loss of time in make-ready; almost any blocks on wood bases are apt to add to the labor. Forms of a given size having 32 or 48 pages involve more labor in making register than where there are only eight or sixteen pages on which to secure correct backing. A rule border likewise increases the labor of making register, and also involves a loss of time in avoiding slur. Forms of poetry, though fat for the compositor, and requiring to be registered only on the folios, are yet lean for the pressman because the numerous ragged lines take more impression than those in the body of the verse, involving much cutting out and patching up. Forms of very small type require increased care, because of the necessity for extreme clearness of print, and must be inked quite as well as a form of half-tones, involving as many stoppages.

It pays to have things neat and clean in the pressroom, as dirty presses and floors invite slouchy work. The instant a new pressman comes into a pressroom where the machines are clean and bright, the floor clear of soiled paper and waste, and the ink neatly kept, that instant he recognizes that he is expected to turn out neat work in such surroundings; but when a new man comes to work in a dirty, dark pressroom, it does not require much intelligence on his part to recognize that almost any slighted work will pass muster. Every printer should know enough to keep a record of the sheets spoiled, though there are offices in which this is not done. When omitted, the shortage usually comes out of the customer, who may not notice it. If it is noticed, however, the customer is

apt to consider the printer as dishonest, and to leave him for one in whom he has confidence.

The steam-engine has been the most favored motor for the pressroom, but of late years the practice has increased of attaching individual electric motors to each press. Under this system the printer pays only for the power he uses, as there is no charge for electric current when the press stands still. It does away with shafting, pulleys and belting, affording increased light. If a few more presses are added to the plant it is not necessary to throw out the steam-engine and buy a larger one. By availing himself of such improved mechanical means as this, wherever offered, the wise printer may expect to be able to produce work for his pressroom as economically as any one in his locality.

The platen job presses in an office should be large earners, if the business office knows how to charge for the work, as they are kept busy mostly with small orders, averaging say \$15 or \$20 each, and such can be made to pay a profitable price more easily than jobs involving a thousand dollars or so. Machines of the Gordon type are light and simple, do not get out of order readily, and may be run by boys with safety. Some of the later types of presses have numerous conveniences and time-savers that are worthy of consideration. It is also possible to have made special mechanical appliances for jobbers to adapt them to special work, and the printer who has long runs of anything out of the ordinary will do well to look into such matters.

In operating job presses it should be remembered that there are several little tricks by which two, three or even four colors may be printed at the labor of a single impression. The most practical of these is

accomplished by dividing the form, and locking the parts side by side in the chase, cutting the paper double size. The sheets are then run on one color, as red—after which the press is washed up for the other color, as blue—and the two parts of the form are reversed. The result is that one-half of the form has the red and blue reversed in arrangement from what it is in the other half, but the total number of impressions is the same as the total of the job, and every sheet is in two colors. This system saves only on small runs, for on a large run it would be just as cheap to have electros made and run several at once, perhaps on a cylinder.

Let the printer ever remember that it is not what a press can do, but what it does do, that determines final profit or loss in the pressroom.

CHAPTER XIX.

THE BUSINESS OFFICE.

IN the average printery the business office receives less attention than any other department, yet it is, in a sense, the most important of all, for its mission is to hold together the mechanical departments and cause them to develop a profit. When a good business man and a good printer go into opposition it is always safe to wager on the superior success of the business man. The good printer should note this, and make himself over into a business man, bearing in mind that there is no object in doing business except to make a profit. The business office exists to see that a profit is made, and to make that profit as large as possible.

One of the prime requisites of a business office is neatness. A good office is as much entitled to display good counters and desks as is a bank or a charitable society; a good carpet or a properly oiled floor are as desirable here as in a physician's office or clergyman's study; for these things command the respect of the stranger, who judges of a man at first sight by his clothes, or of a business by its substantial evidences of prosperity. Just as the well-dressed man commands the most confidence at first sight, so the well-appointed business office suggests to the prospective customer who calls that he is in a place where good printing and fair treatment may be expected.

The printer who does his business in a dingy room, or on an old desk in the corner of the office, is like the antiquated countryman who wears a hat of a fashion twenty years old—lacking in proper self-respect. Only those who personally know his virtues and substantial qualities will believe that he has anything special to commend him. With good chairs, desks, counters, shelving, and sample cases, and neatly tinted walls and ceilings, with attractive window shades, etc., the business office is well arranged for trade.

If a firm of printers make a specialty of doing ornate work, and desires to impress customers that its grade of printing is much superior to the average, it is well to fit up the business office more like a studio, with framed specimens of color work on the walls, portieres at the entrances, etc. Two customers out of three will have more confidence that they can secure an extra fine grade of work in such a place than where the office appointments are of a simple character.

Even in the office of a very small printery it pays to have a book-keeper and typewriter. An intelligent young person in this capacity can save fully half of a proprietor's time, and give him the chance to do a hundred things that otherwise might be neglected. The proprietor or manager should keep his own desk neat and presentable. I once knew a proprietor whose habits were so peculiar that he never could get through with the letters or papers he handled so as to permit them to be filed, but left them sprawled about his desk until it was so loaded that there was no room to work; then he let the cover down, and did his work on the outside and on the slides, and when these were also loaded, he moved a clerk and appropriated his desk, so

great was his aversion to clearing up his own. This is cited as an example of what slovenliness may lead to, and as an instance of "how not to do."

The next essential in the business office is the having on hand at all times of a man competent to talk to customers, take orders, and make prices. This work is by long odds the most important in the business, for on the price obtained and satisfaction of the customer depends the prosperity of the whole establishment. A practical printer is usually required for this position, because of the necessity for knowledge of all the details of production, but it is even more essential that the ordertaker should be a good figurer and capable salesman—a man who knows the cost of work, and who can satisfy the customer that he is getting value for his money. The duties of such a man are fully outlined in the chapters on "Taking Orders" and "How to Talk to Customers." To obtain a profit it is necessary to charge and collect more than all the direct and indirect costs; and to get customers to pay the price asked requires good management and a knowledge of human nature.

The business office is to the balance of a printery what a man's head is to his body. It is here that the brains must be applied to make the whole establishment a success. It is a mistake for a proprietor to do his own work in the composing-room and pressroom. He should hire workers and devote his time to running the business; conducting the business office so as to extract a profit from everything that comes in his way, or that he can bring into his way. It is not the amount of work done in an establishment during a year that determines prosperity, but the amount of

profit extracted from the work. Better is \$5,000 worth of work at \$1,000 profit, than \$10,000 worth of work at \$1,000 profit, for the former involves less bother and better chance of getting more work at the higher profit in the future.

The business office should keep itself informed of the exact production, exact cost, and exact profit or loss on every piece of work done in the printery every day in the year. By keeping separate accounts for each department, it is possible to know if any one department is being carried at a loss, or without profit, and if so to raise prices in that department. It does not make any difference what other printers are doing or charging; it is the business of the business office to see that the prices on work in every department are profitable, for if they are not made to pay, it is better to close them up than to bother with their unprofitable maintenance.

It is an important problem to decide whom to trust, and how much trust to give, yet it is a question that cannot be shirked by the business office, for it is universally agreed that it is impractical to do printing on a cash with the order basis. The goods manufactured by the printer are commonly of no use whatever except to the customer; if he fails to pay for them and leaves them on the printer's hands they are nothing but old junk. Hence the printer must be more careful in making credits than the builder, who retains a lien on the house; or the tailor, who can refit the clothes to another customer. The stranger always should be asked for a deposit on small work. If he brings in large work, he should have a satisfactory commercial rating or excellent references, and also pay a considerable

portion of cash down with the order. If his work involves the purchase of a large amount of paper (as a publication), it is a good plan to ask the customer to buy his own paper, and to put in your contract with him that you may hold any paper delivered to you for the customer as collateral security for unpaid balances. It is also advisable to place in contracts some stipulation as to the extent of the credit, such as that when the credit exceeds the sum of \$1,000 all work shall cease where it is until a payment is made.

The printer cannot be too careful in looking into the individual character of a new customer requesting some credit. It is not only dishonesty that he has to look out for, but undue exactions. The difficulty of printing a job wholly to a customer's satisfaction, and the fact that when done it is worth nothing to the printer, affords the unfair customer a tremendous advantage in accepting work and closing a transaction. Suppose it is a job involving \$3,000, and the customer has made payments to the amount of \$2,000. On the completion of the job he finds fault with certain trifling typographical errors or minor inelegancies, which can usually be found in a large job, and insists that because of these the job is not worth over \$2,500 or \$2,600. The printer may feel that he is a little lame on some of the claims, and that it will be cheaper to compromise for \$2,800 than to sue for the balance due. The job is therefore let go with all the profit shaved off. Such a customer is not to be trusted. The printer has to be on his guard against him all the time.

Beware of the customer who comes from you know not where, and establishes an acquaintance with you on the strength of a few small cash jobs, and then leaves

a large order with the nominal understanding that it is to be paid for on delivery. Never accept such an order without some cash or security, and do not deliver any of the goods until you get all the money. The customer may be an honest man, but such methods are commonly adopted by dead-beat advertising schemers and the like. The only safe way is to give no trust to chance acquaintances, but only to those having a commercial rating or satisfactory references. Even then you must expect to lose two per cent. in bad bills.

There is nothing like properly written contracts to protect printers from loss as a result of misunderstandings. Every possible point of dispute should be placed in writing. This may be done by an exchange of letters, or a written order, or in the case of very large jobs by a regular contract drawn by a lawyer. In all such contracts the printer should limit the amount of credit; specify for time charges for all changes and delays; demand that no deductions be made for trifling errors; and guarantee only reasonable accuracy. If there is a penalty in the contract against the printer for delays, he must see that it is not applicable in case of fire, strike, riot, etc. The wise printer will always exact a higher price for work on which he is liable to a penalty if not delivered on time, because he then takes risks for which there must be compensation in the price.

From the point of view of the business office the printery is a combination of machines, which must be made to produce at a less cost than the price that can be obtained in selling. The management must know the cost of all details, and make prices that will yield a margin for profit, else it is inefficient. Good prices

are to be had only by asking for them and giving such good satisfactory service that customers are willing to pay what is asked. It takes time, patience, talent, push, and experience, to build up a valuable business, and such cannot be accomplished through any "Cheap John" methods. There is no royal road to fortune in printing any more than in any other line of business. One must be a plodder, systematize things and look out for the profit on everything. This is the chief object of the business office. It would be possible to run a printery without a business office if profit were not desired. Since the profit is the essential thing, it follows that the business office is the most important part of a printing establishment. If you run your business office rightly you can make money; if you let it run itself you will run out of business after a while.

The proprietor of a printing office should not work so hard that he gets tired and keeps tired all the time, for then he does not have the proper use of his brains. He should keep himself fresh, and study new methods of decreasing cost and increasing output, and the securing of paying prices. If he does not take time to think of newer and better ways of running his business, others who do think will get ahead of him. He requires to watch his trade as a speculator watches the stock-ticker, and like a mariner trim his sails whenever he sees an approaching change in the wind. He should know what other successful printers are doing, and how they get good prices for their work. To this end he should cultivate a friendly feeling with his competitors, and when in other cities call on leading printers and invite an exchange of ideas. Many a man who is esteemed as rather dull by his fellows succeeds in busi-

ness simply by the thoroughness with which he studies the methods of others, and applies their successful ideas to his own affairs.

The writer deplores the making of price lists as generally objectionable. While recognizing that they are more or less necessary to existing conditions of trade, and may be often the means of upholding prices, yet they are also often the means of keeping down charges, by the leveling of all work. What I mean by this is, that if in a price list, billheads for instance, are quoted at so much per 1,000 for a given size, there is no leeway for any peculiar conditions in the job. A job properly placed in a price list at \$5 may be worth \$10 if wanted delivered in five hours, or if wanted for a customer noted for his fussiness and delays and changes. There are a score of circumstances that may render it wise or obligatory that the first price should be much higher than under ordinary conditions. A price list supposes that cost is always the same, whereas in reality it is always different, and as the printer can judge much better of the cost at the time he is about to do the job, with the copy in hand, than can any price list, he should be privileged to vary or raise the price according to such conditions. He is not bound to lower a standard price because he happens to be able to turn out the work more cheaply than usual—that is the accident of fortune of which he must avail himself in order to increase his profits. He is under obligation to himself to raise the charge with every increase in cost, however temporary or irregular, his sufficient excuse being that he cannot make a profit on the work otherwise, and why should he work without profit?

It is a homely proverb that soft soap goes further

than hard, meaning for us that a little pleasant talk is frequently useful in business transactions. It is not necessary to display truckling or obsequious qualities, yet it is folly not to show a distinct desire to please customers, and to make them comfortable generally. A man who buys printing likes rather to have his reading matter approved than regarded with doubt. If the printer cannot approve of his customer's copy, or assist its improvement, he had better say nothing as to its character; but if he can throw in a few words of appreciation as to the get up of the thing—of the idea involved—he will certainly stand a better chance of keeping the customer.

The young printer who knows he has all to learn in business should not be shy of going to his older competitors for pointers. When they know that these pointers are desired to keep up prices, usually they will give them freely. Let the master printer run the business end of his printery with all the knowledge and skill he can gather, and all the new methods that commend themselves as better than the old, and he will prosper.

First get the business; then get the price; then give good work promptly; then conduct the plant economically, and you will be managing your business office on the right lines.

CHAPTER XX.

BOOKKEEPING.

THE average small printer in business keeps books in a very irregular, disorderly way. He can seldom tell anything about a job printed a year ago, though he may find some traces of it on an old strand of wire used as a file. He can never be quite sure whether he has paid the paper man for envelopes bought six months before, and the chances are that even his cash account is uncertain, as he has the habit of paying for small things out of his pocket, and entering them up later at some convenient time. He either undertakes to remember the details of orders that he takes, or scribbles them partially on the back of the copy. A cash account and a ledger are about all the books he cares to bother with, and the entries in these are frequently in lead pencil. This sort of bookkeeping may be partly excusable for a printer who starts a plant with a force of one boy, but if the office develops, the system of bookkeeping should develop also, else the proprietor will lose track of what he is doing, and run along with very little idea as to what he is making, or whether he is simply earning wages. As to knowing what is the profit on particular jobs it is out of the question without proper bookkeeping, as all becomes guesswork.

As soon as an office acquires enough business so that the bookkeeping occupies a considerable part of the proprietor's time, he should engage a bookkeeper (who may also be a collector, typewritist and office assistant), and have the books kept in a systematic way, so that he may know at all times just what he is doing, and how his business stands. The method of bookkeeping must vary largely with the size of the plant and the character of the work, but the books should be so kept as to show the cost of all work at regular intervals, the receipts, outstanding accounts and profits. The printer who fails to keep closely in touch with his cost of production is liable to under-charge and lose money, and be unaware of it for perhaps a year or two. If his accounts show him at monthly intervals just where he stands, he will not be likely to commit a mistake in the way of quoting prices at or below cost.

Following will be found a description of the system of bookkeeping which is used at the Lotus Press, and which has proven satisfactory:

ENVELOPE SYSTEM FOR INSURING CORRECT HANDLING OF JOBS.—The outside of this envelope is a job ticket, as will be noted from the reproduction here shown. Being in envelope form it serves to carry the copy, etc., better than if pinned to the ticket. The size used is $6\frac{5}{8} \times 9\frac{1}{2}$, and the quality a stout manila. When an order is taken, one of these numbered envelopes is made out, the number on the envelope being also the number of the job. The envelope holds the copy, and all the instructions for the composing-room and pressrooms are placed outside. It is the duty of the compositor, pressman, feeder, cutter, binder, etc., to mark on this envelope the time he spends on the job. This time must correspond with the time

charged on the workman's time ticket for this number of job. As the workman is paid by the time ticket,

June 24th, 1999.		No. 24801	
Name John Smith			
Kind of Work 2,000 Catalogues			
Size 5 1/2 x 8 1/2—16 pp. and Cover			
Pads		Ink Black	
Proof June 30th		Job wanted July 15th, at 10 A. M.	
Compositor		HOURS	MINUTES
Alterations			
Pressman		HOURS	MINUTES
Feeder			
Pressman			
Feeder			
Stock 24 x 38-70 lb. Super, while			
Cover, 22 x 28-48 lb. H. L. Rose			
All Copy, Proof, Revise and Sample of Work to be returned to office in this envelope.			
Delivered July 15th, 1999.		NO. SHEETS SENT TO PRESS	NO. SPOILED
Deliver to			
Remarks			

this practically insures the giving of correct time, a very necessary thing, as the cost is figured from this time.

As the envelope is meant for general circulation through the printery, it is proper that it should not bear the price of the job, or other details which concern only the business office. A ticket is therefore made out, with the same number as the envelope, and on this is placed the name, address, price given, and all private information. This ticket never leaves the office:

Rec'd *June 24th,* 199*9.* } No. *24,801*
By *E. W.*
Delivered *July 15th,* 199*9.*
Name *John Smith*
Address *292—6th Avenue*
Ledger *Page 51* } Charge
Sales Book *Page 16* } \$ *102.50*
2,000 Catalogues
This Ticket must not go outside of office.

Composition (See envelope).....
Presswork (See envelope).....
Paper.....
Plates.....
Engraving.....
Perforating.....
Eyeletting
Numbering.....
Cutting.....
Binding.....
Packing and delivering.....
.....
.....
.....
.....

By totaling the above and adding the general expense, etc., the cost of each job is accurately ascertained, and the price charged is based on this known cost in cases where estimates have not been given.

In connection with the envelope system there is maintained a "Proof-Out Drawer," in which the envelope, and such contents as do not have to go out with a proof, are placed, and remain there until the proof is returned. This drawer affords an instant key to all work that is waiting on proofs, and avoids the danger of a job being put in type for a customer, and never being billed or paid for, should he change his mind and retain the proof, never sending an order to print.

An order book is kept in which all orders are made out and carried by the number on the envelope. In this book the columns are arranged as follows:

Order Rec'd	No. of Envelope	NAME	JOB	Delivered
<i>June 24</i>	24801	<i>John Smith</i>	<i>2,000 Catalogues</i>	<i>July 15, '99</i>
	24802			
	24803			

THE ORDER BOOK AND LEDGER.—The names of the customers are used in indexing this order book, so that when there is a query by a customer about a certain job—new or old—it can be located in its envelope by the number, without delay.

No more bookkeeping is done until the job is finished, and then it is closed on the order book by entering the date of delivery. As a check, to insure correctness, it is required that the date of delivery be entered in the order book and on the office ticket at *the same time*, that is without permitting anything to intrude between the two entries. When the job is finished the envelope is returned to the office, where the ticket is attached to it, and the billing and charging follows. The charging is done directly into the ledger, which is ruled to order thus:

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John Smith

Dr.					Cr.				
1999									
<i>July 15</i>	<i>2,000 Catalogues</i>	<i>24801</i>	<i>\$102</i>	<i>50</i>					

The ledger page is then marked on the ticket and the charge is entered in the sales book, thus:

DATE	ORDER No.	NAME	LEDGER PAGE	PRICE	
<i>July 15</i>	<i>24,801</i>	<i>John Smith</i>	<i>51</i>	<i>\$102</i>	<i>50</i>

The total sales are credited to the Sales Account in the ledger at the end of the month. This manner of entering directly into the ledger and sales book saves an endless amount of journalizing, and also avoids errors. When the ledger page, the sales book page and the date of delivery in the order book have been marked on the ticket it is ready for filing. The ticket is placed inside the envelope, and the envelopes are then kept in boxes made for that purpose, of a size to hold fifty envelopes. These boxes are labeled in good legible print "24800 to 24850" (for instance) and are kept on accessible shelves.

Each item charged in the ledger, it will be noticed, is marked with the envelope or order number, and the kind and quantity of the work is also stated, so that when a duplicate order is received or an old sample wanted it can be found in a minute by referring to the ledger for the number, and then getting the corresponding envelope out of the box. This handy way of referring to previous work is very satisfactory to the customer as well as to the printer.

THE INVOICE BOOK AND CREDIT LEDGER COMBINED.—Small printers are very apt to omit bookkeeping with the people of whom they buy. They think that they are sure to be billed for all they owe, and that they

can remember whether the charges are correct. In this way they lay themselves open, not so much to the dishonesty of the firms they patronize, for there are few houses that would deliberately take advantage of such a state of affairs, but rather to the carelessness of clerks in the employ of the saleshouses. The Lotus Press has found it convenient to enter all invoices directly into an "Invoice or Credit Ledger," and no invoices are entered here unless they are checked to show that the goods have been received; each item is also marked with the name of the job for which it was used. This method of marking each item with the name of the job helps to avoid double entries of the same items.

It is a common error for clerks, where stock has been changed to fail to give credit, and to bill the printer for both lots when he retained and used but one lot. At the Lotus Press, when anything is returned (whether a credit bill is received or not), it is crossed off the memorandum account on the invoice or credit ledger, or the amount is deducted at the end of the

556 (PAGE)

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John Jones

Memorandum Acct.

DR.

CR.

	Page			Journal Page
<i>May 30</i>	<i>May acct. 557</i>		<i>\$25 94</i>	<i>26</i>
<i>June 10</i>	<i>Cash 16</i>	<i>\$25 94</i>		

				Name of Customer
<i>May 5</i>	<i>13-20 Rm. 28x42 60 Sup. White at 4c.....</i>	<i>\$2 76</i>		<i>Hall</i>
	<i>2 Rm. 28x42-75- 500 Laid, at 3¾c.....</i>	<i>5 63</i>		<i>Hock</i>
	<i>1 Rm. 24x38-80- 500 Nat'l at 4c..</i>	<i>12 80</i>		<i>Simpson</i>
	<i>1 10-20 Rm. 25x 40-110 Green Enamel, at 7c..</i>	<i>11 55</i>		<i>Brown</i>
		<i>32 74</i>		<i>Carried to page 556</i>

month before entering the total to the credit of the creditor. In this manner all bills are entered and then journalized *by totals* at the end of the month.

The tabulated specimen on page 197 shows the manner of keeping the "Invoice or Credit Ledger," showing opposite pages, one the memorandum account and the other the actual account.

It will be noticed that all items are entered in a "Memorandum Account" and that at the end of the month the total is carried to the account page. In this way one page will do for the actual accounting and the following pages (Dr. as well as Cr.) can be used for the itemizing of the invoices.

The total for the month is then charged to "Stock and Outside Work Account," by a single monthly journal entry instead of by numerous daily entries. Where a great deal of stock is bought the saving of time by this manner of entering can readily be appreciated. The "Memorandum Accounts" are exceedingly handy for reference, avoiding the necessity of referring to the journal or to the invoice book or to the invoice file, etc.

ESTIMATES.—The estimates are made out on a sheet, letter size, and to this sheet are attached all communications referring to the estimate, such as the original letter of inquiry, the typewritten carbon copy reply, and all outside estimates for paper, electros, engraving, etc., etc. These sheets are filed in a common letter file and are easily referred to. This method of keeping estimates with all information attached has proved very convenient and less cumbersome than keeping them in books, in connection with which it is always necessary to look up this letter or that letter in the file, which

creates loss of time and generally a great deal of annoyance.

		.....19
ESTIMATE FOR M.....		
Address.....		
Description.....		
Quantity.....		
Size.....		
Colors.....		
.....		
.....		
.....		
Composition		
Press		
Paper		
Composition		
Press		
Paper		
Plates		
"		
Sketches		
Engraving		
Perforating }		
Eyeletting }		
Numbering }		
Cutting		
Packing and Delivering		
Binding		
Total		
Percentage		
Estimate given \$.....	Grand Total	

MONTHLY PROFIT AND LOSS ACCOUNT.—The system of accounts employed by the Lotus Press makes it possible to get out a monthly profit and loss account. This is

done by closing accounts each month as per the table below. The "Stock and Outside Work Account" includes everything that is used in the production of the finished job, such as paper, ink, postals, etc., etc.:

May 10th, April rent and power . . .	\$300	April sales . . .	\$10,000
" wages	3,000	Discounts taken . . .	90
" stock and outside work	4,050		
" general expense . . .	1,000		
" discounts allowed . .	90		
" complimentary printing	30		
" office printing . . .	30		
" Profit (gross) . . .	1,590		
(Carried to yearly profit and loss acct.) . . .	\$10,090		\$10,090

In case more stock and outside work is charged during the month to that account than is used during the month, a balance can be left on the account, or better yet carried to a standing account with an average balance of stock on hand, which can be increased or diminished according to the estimated stock on hand.

The totals of monthly profit are carried to a yearly profit and loss account, where such items as dead accounts, interest on money, loss on machinery by wear and tear, insurance, accident insurance, advertising, and all other extra yearly expenses of all kinds can be entered.

CHAPTER XXI.

MANAGEMENT OF EMPLOYEES.

No matter how correctly a master printer may estimate, no matter how closely he may buy his stock, no matter how well he may know his trade, if he has not the co-operation of his employees, he will have a hard road to money-making. The workman who hates the boss can always injure him surreptitiously to a greater amount than he earns above board. It is then to the interest of every master printer to stand well with his men, to cultivate a spirit of interest in the business, a patriotism for the good name and credit of the firm. This can be accomplished only by being absolutely fair with employees, and carefully preserving their good will. It is a fact that some employers who pay small wages secure more willing service than others who pay the scale and over, simply because of their cordial and friendly ways. A wise liberality combined with a strict holding to account are the secrets of securing good service.

I have been told that one of Theo. L. De Vinne's rules was "Know what a man can do, and see that he does it." Certain it is that at the De Vinne Press every man does a full day's work, and no set of men ever revered an employer more, for his kindness and liberality went hand in hand with exact strictness.

In order to insure the constant pushing along of work, and a production that is at all times equal to the ability of the men, an employer must do more than establish a system of daily reports. He must either know directly, or through some superintendent or manager in each department, according to the size of the office, just what each man does every day. If he does not, he will be constantly paying wages to some men who do not earn them. When an employee feels that some one above him actually knows just what he does every day, and when he is jogged up on days of small results, but gets a word of praise on days of hustling, then he is apt to do the best work of which he is capable. The careful manager will make a daily tour among all the men and pass a word or two with each, to let them know that he is in touch with what they are doing. It will be to one, "Are you going to get up your five pages of this to-day, Jones? You did a big day Thursday. I'm looking to see you beat it." And to another, "Ten o'clock, Jimmy, and only 2,000 off. You're not breaking a record on this press to-day. Had to change that plate, eh? Well, do it right, and we will find no fault." And to a third, "Will you get all the forms of Carruther's book to press this week? I hope you can, as they are pushing us hard for them. Get them through, and your efforts will be appreciated."

The employer who talks that way to his men lets them know that if they loaf, he will know it. And if he accompanies these injunctions to rush by a wise payment for holidays, and a due regard for the comfort of his men, he will get the best results. I abominate the keeping of men to the mark by any system of fines,

or anything that tends to degrade them. When you find that you have men whom you cannot make work well, and keep up to the mark, or who work against your interests, discharge them relentlessly. If you have disturbing elements in your force, men who inflame the others to discontent and strikes, get rid of them quietly at your convenience. No matter how good a workman a man may be, he becomes a damage the moment he begins to work against the profit-earning of an office, and to sow discontent among the force.

Every office is troubled more or less with incompetents. The best men are scarce; men of the middling sort are common, and incompetents all too plenty. The latter class have to be taken on during a rush, and are laid off with promptness when work slackens. It is worth the while of proprietors, however, to study the incompetents, for here and there among them are men capable of making good workmen, but who have failed to learn to do their work well simply through unfortunate circumstances. The employing printers of America have much to answer for in engaging boys "to learn the trade," and turning them off when half fledged, without a chance to finish their technical training. Young men who have been thus deceived are often capable of making first-class workmen, if they are taught; but because they have not the faculty of picking up the trade during the odd times they get work, they are doomed to worry along, a nuisance to employers and of very little use to themselves.

A case came to notice a few years ago, of a young man who had had about a week's work in a good office during a rush, and who was then told that he was no longer wanted. He said to the manager, "I don't

understand why it is that I can't keep a place. I work the hardest I know how, and I have got on in seven offices during the past year, and yet not had three months' work." "You don't know your trade," said the manager, who had observed him, and noted that he was a "blacksmith." "I do the best I know how," the man replied. "I'd do better if I had a chance in a good office, where they did fine work." "Yes, but you are not worth half wages to us," said the manager, "and you think you ought to have a journeyman's pay." "I'd work for most anything where I had a chance to learn," said the man. "It's hard lines getting little work, and nobody suited with what I do." "Will you go to work for \$7 a week," asked the manager, "if I give you a chance to learn as fast as your ability warrants?" "Yes, and be glad to." The man went back to the case, and inside of three years he occupied a foreman's desk in that same office, and drew \$22 every Saturday night.

This story is true, and is only one of many that might be told if managers would take a little interest in poor fellows who never had a chance to learn the trade properly, and who are so generally classed as incompetents, often through the fault of others quite as much as their own. If master printers will take hold of such as are deserving and teach them the trade, they will confer a boon not only on the men taught, but the trade generally. This is not always possible under trades union restrictions, but it is hoped that some day unions will cease to give working cards to men who have not fully learned their trades, but oblige them to serve as apprentices until they become competent.

The harmonious working together of an office force is largely due to the management of the foreman or

employer, who should be able to so far secure the good will of the men as to prevent the development of any feeling of jealousy between them, a jealousy that often arises because of the natural progress of the younger hands, as they are put forward on better work, and which is often the source of much trouble. The foreman should insist upon such carefulness and thoroughness of work at each stage of promotion that all hands alike may feel that any promotion made has been well earned.

Among workingmen of intelligence, such as are usually found in the printing office, the sense of justice is the best security for an employer to depend upon for harmonious working, and if his employees have to acknowledge to themselves that they are always treated with consideration, that the rules and order of work in the establishment are such as are obviously necessary to the successful prosecution of the business, they naturally develop, almost without knowing it, a sense of interest in the success of the business, and are desirous to contribute to its prosperity, as well as to draw their wages.

The manner alluded to of entering and working up apprentices, or boys and young men to learn the trade, is unquestionably the natural and most economical way of making good printers, doing justice to both employer and employed. But the degree of success attained will be largely due to the proper management of the employer or the foremen who represent him. To obtain the good will of the men it is not necessary to be especially familiar with them; this is a poor line of conduct, and it is even worse to exhibit a spirit of arrogance, or a disposition to be unduly arbitrary. The employer who lets a workman know that he thinks he is a better man than the employee generally makes an enemy. A modern

printing office is no place for the display of qualities that might be essential to discipline on the deck of a battleship at sea.

I am rather opposed to formal rules. Some, of course, are necessary in every establishment, and the larger the plant, the more essential it is that certain arbitrary regulations should be enforced. Yet it is a fact that the posting up of a lot of hair-splitting rules tends to breed contempt in the minds of workmen, who are liable to violate them on every occasion that they can do so undetected, simply because they dislike the idea of such restrictions. In many offices there are a number of so-called cast-iron rules about trivial things, that might better never be formulated. Regulations requiring the keeping of the material in order or in the proper place, do not seem to call for rules, but a general enforcement of neatness, so obvious is the need of keeping things orderly in a printing office. Men can easily be brought to see this, as well as the necessity for most other simple matters of every-day discipline, conducing to the order of the office, or called for as a principle of economy, without the posting of any arbitrary rules on the subject.

Another difficulty with hard and fast rules is that they make no allowance for exceptions, which are bound to occur. No matter how good a rule may be, the slavish following of it will sooner or later lead to an absurdity or contradiction of the desired end. I have seen an office where there was a rule that there should be no distribution afternoons, because it interfered with certain rush work; but in that same office men would sometimes spend half an hour picking for sorts in an afternoon, when they might better have made an

exception to the rule, and distributed the matter that was wanted. I have also seen the men deliberately sit down and do nothing for a half hour when the foreman was out and no composition on hand, because they must not distribute at that hour.

It is better to manage the men with few rules, and with a good understanding between master and men, so that the necessities and customs of the place become the recognized unwritten law of the establishment, which it is rather the pride of the workman to uphold, and which bear upon him with no unfeeling pressure. The men, especially where they have grown up in an office, come to see and appreciate not only the labor-saving character of such a course of management, but develop habits that affect their whole work, and assist them to bear in mind the interests of the employer, as in seeing that odd sorts are in proper places, quad boxes kept clean, and a hundred and one other matters in which intelligence, guided by good will, may be highly promotive of the interests of the employer. This is to be recognized constantly in things so small in themselves as to hardly call for special notice, but the aggregate of good or ill to the business thus affected is great, the possible ill being obviously equal to that of the possible good.

In most offices, especially in the country and smaller cities, it is important to consider the influence which the employees may exert in bringing business to or diverting it from the printery. It counts for much in an employer's favor when all his workmen desire to throw work into his hands, and each, in his circle of acquaintance, is always ready to speak a good word where he thinks it may bring work to the office.

This is the natural way, the way in which things should work in an office where the treatment of the employees has been of a judicious kind. In larger establishments, also, the influence of the employee in getting work is not to be neglected, for although the results may not be so readily discernible, yet the influence counts often in unexpected quarters. An office rightly run is entitled to all the business which its humblest employee may control, as well as that of the most high-salaried solicitor or influential manager.

A policy of conciliation and forbearance in all cases of trade disputes, differences as to wages, hours, etc., is too obviously advisable to call for special recommendation; but far better than this is it to see that there is no occasion for dispute, that no question of a kind likely to cause trouble is allowed to go so far that lines will be distinctly drawn upon it between the workmen and the management. In foreseeing and preventing possible disputes, and in being so secure in the good will of the men that nothing of the kind can suddenly arise, lies a large part of the best kind of success in the management of the employees, for the good of all concerned.

Undoubtedly, a general policy of arbitration between proprietors and workmen would settle labor difficulties without serious friction. It is not always possible to arbitrate a question. In what is called the sympathetic strike there is often no issue at all between the men of a particular office and their employer. But as a general thing, it is possible by the exercise of diplomacy to avoid a disastrous strike. When good workmen ask for a reasonable concession, they ought to have it granted them; when they demand something they want, but

which conditions will not afford, the situation should be fully explained to them, so that by reasonable and dispassionate discussion they may see that they are asking too much; when the demands are unreasonable, or involve a principle that an employer cannot allow to take root, such as that of dictation as to who shall be his customers, then the only good policy is to firmly resist to the end. But never invite a strike until diplomacy is exhausted; never be the aggressor in straining relations with your men. A strike or lockout is war, and should never be accepted but as a last resort, for it dooms profits for a considerable period in the most successful establishments.

When a strike is actually in existence, then is the time that an employer can profit by the good treatment of men in time past, many of whom will stand in with the house that has used them well, rather than join with those who seek to coerce it. The master printer should never allow himself to desert the men who stand with him in a strike. No later pressure from trades unions should ever cause him to forget the men who incurred the distrust of their fellows to cast their lot with him. I remember once seeing in a large Philadelphia office a consumptive old fellow doing about half a day's work in ten hours. Some one remarked that he was getting \$19 a week, \$3 more than the scale. He was once worth that figure, and he had stuck by the firm when a bad strike was on, and they kept up his pay when he ran down hill, and sent his family \$100 when he died. Some would call this charity, but it was also good management in a large office, for it assured an indemnity from future strikes.

In the treatment of employees the "Golden Rule" is a good thing to follow both from an ethical and a business standpoint. Men are not machines; it is essential in some respects to conduct an office as if they were machines, for one must have mechanical system and regularity to produce results. But it is wrong to forget that workmen are human, that they have the same right to the good things of this world as the employer, and that upon their sympathy and good will a large part of the success of an establishment must always depend.

CHAPTER XXII.

THE EMPLOYEE'S OPPORTUNITY.

THERE are plenty of opportunities for advancement in the job printing business, because real ability is hard to find. True merit and capacity are sure to be recognized sooner or later, and application and intelligent endeavor will insure permanent positions at good wages, and advancement wherever practicable.

The young man at the case or the feedboard who wants to rise to the top of his trade must engage in a great deal of self-education. He must know more than the mere trade of typesetting or making-ready; he must learn more than those about him—yes, than those above him—if he would climb. Too few recognize their own lack of general education, and only by appreciating their personal deficiencies can they rise to a higher grade of knowledge.

A thorough knowledge of spelling, punctuation and grammar is essential to the making of good compositors, and most of them become fair spellers, middling punctuators and indifferent grammarians. If you are a young printer, resolve that you will know all there is to know about these subjects. Become a good speller, not only of common words, but broaden your vocabulary by studying the latest dictionary. Learn all the ins and outs of punctuation and capitalization from the same source, or by purchasing and studying the latest books on these topics. Study grammar, first as the

schoolboy studies it, and then as the writer does, learning the niceties of grammatical expression, and the nature of popular blunders. These last are technically known as faulty diction, and it is the duty of good printers to correct these when observed in the copy of their patrons. It is an intimate knowledge of these things that fits a compositor, when the opportunity comes, for taking a place at the proof-reader's desk, and rising to the top of that branch of the printer's craft.

The study of the branches mentioned is not wasted even if the compositor never takes up regular reading of proofs. Men with such knowledge are most useful in medium sized offices, where a compositor may be required to divide up his time in several ways. Think of the great number of such offices that have not business enough to employ a man wholly as proof-reader. It is in these particularly that the opportunity exists for the advancement of the compositor who is educated to the correct use of English. The man of all-around knowledge is of increased value to the small plant. Unfortunately there are few college graduates in the printing business, as beginners generally are brought in at about the age of fifteen and receive no more regular schooling after that time. In many printeries the college man is sneezed at as an impractical upstart with a little knowledge of Greek and Latin, perhaps, but of not much account for every-day work. If the college man could know the practical side of the trade, or if the practical printer could be brought to a better realization of the value of the liberal education of the college graduate, and emulate his learning, then there might be developed more educated printers who would be truly fitted to some modern honor comparable with

the wearing of swords, the dignity said to have been conferred upon some early members of the craft.

Knowledge is power; knowledge will get money, and money will get almost anything. Equip yourself with knowledge, young printer, and you will get along in this business. It is not only book knowledge that is referred to, but every sort of knowledge bearing on the trade. The job compositor who has cultivated his artistic taste, and spends no more time in setting up attractive work than others do in setting commonplace work, is more valuable than the one who has no taste, or having it, occupies so much time in securing good typographical effects as to leave his employer no profit. If the compositor can also be relied upon for typographic correctness, saving the time and oversight of the proof-reader, he is even more valuable. If, besides the above, he can profitably superintend the work of others he is still more valuable. The man who works with his hands only, no matter how hard he works, is largely a tool, and is not as important or valuable as the man who can use his brains, or the one who uses hands and brains.

Never be afraid of knowing too much or of displacing those above you. There is plenty of room at the top of the printing business for more educated activity. The good apprentice is the first boy to be put on display work; the compositor with the clean proof is the first to be called to the reader's desk; the apt feeder is the one who is put in charge of the press when the pressman is sick or incapacitated; the workmen who manifest all-around ability are the ones who are chosen for promotion to positions as foremen and superintendents. The employee who hustles will almost invariably find the opportunity by the time he

is ready for it. When he does not, and it becomes apparent that circumstances will prevent his advancement where he is, he had better look for a chance to get in elsewhere into a position in the line of promotion.

If an office is given over to toadyism, and you cannot rise except by sacrificing your self-respect, look out for another place. You may be sure that there are plenty of proprietors who know just what their men do, and who will reward good service; and plenty of foremen who will like you, rather than be jealous of you if you do honest work. But do not expect promotion until it is earned. When you take a new position you must prove your value patiently before you can expect to be advanced. If the firm for which you work is a successful one, and its members fair people, be satisfied to work and wait, and in due time the opportunities will come for you to show that you are worth more money or an advanced position, and you will be recognized and rewarded.

Probably every good printer who advances to a position as foreman desires at times to take another step forward, and embark as a proprietor. This is a move that requires the utmost care and consideration. It is comparable to a step in the dark, leading one knows not whither. Those who are moved to go into business are counseled to ponder well the opening chapters of this book. They must also remember that nine out of ten who go into business fail, largely through lack of consideration of all the conditions. In leaving a good position as foreman, with a stated salary and a sure thing, to take up with the uncertainties of business in a small way, the printer must expect first, to have to live on a reduced income for

some years, as he will have to put everything into the business to make it go. Then he must bear in mind that he will have to give credit, and that he will get little credit himself at the start, so that in six months, even in a very small business, he will find that \$500 is constantly being owed him—\$500 that he can never collect up—and which amount grows larger and larger as his business increases, representing the money that is coming from those who owe him. As fast as these debtors pay up—or as most of them pay—new credits are demanded; and so he goes on, lending money to his customers when he needs it so badly himself, because under the circumstances there is nothing else that he can do. Neither the beginner in business nor the old house can escape this condition; yet the beginner seldom considers it until he gets into the scrape. Then he finds himself always short of funds, scrambling to meet notes, to pay for additions to his plant, or for sorts, or loans, or something, and his family have to live short, take store orders, and scrape along somehow until some day when he either fails altogether—which is the usual thing—or by dint of careful management and good sense, pulls the business through, he knows not just how, and begins to find that he is making enough to draw a salary as good as he pays his foreman. When this stage is reached, there is a good chance of permanent success, if the printer does not get inflated ideas, and try to do a big business all at once.

The employee, who thinks about starting in the printing business for himself is cautioned to consider well the cost, and to disabuse his mind of the idea that he can do work for less than those now engaged in the business and make money. This idea, so

prevalent among employees, springs from a lack of information as to the numerous small costs that attach to a job of printing. The employee naturally thinks that the principal cost is his wages, as that is the amount that he sees and knows. If he is getting twenty-five or thirty cents an hour, and his employer sells his time for sixty cents, he thinks the employer has a very soft thing, sitting in an office and raking in as much pay as all the hands put together. Little he knows that the other costs are even greater than the wage costs, and that for every hour of the compositor's time that the proprietor sells at sixty cents he has to furnish at least an hour of some other person's time—it may be an hour made up of a fraction of the foreman's, the errand boy's, a distributor's, a proof-reader's, a type-founder's, a land-lord's, a mortgage holder's, or any of a dozen others—but it will always average at least another hour in value of somebody's time that must be paid for in some way, and that eats up as much or more money than the direct wages for which he can charge the customer.

It is in underestimating this cost of production that the employee who thinks of starting out for himself commonly makes his first great mistake; he does not realize what all these things cost, and so he exaggerates the possible profits in the business. The only safe way to judge of the prospects of success in starting a new printing office, lies in not guessing at anything. When you have saved a little money and want to go into business, try first and secure a minor partnership with your employer, making a contract that will allow you to withdraw again at the end of a year if dissatisfied. He or some other established printer may let you in, and thus give you the

chance to learn something of business management, and the exact cost of doing work.

Do not make the mistake of thinking that because you have been a foreman that you are a business man—that you can take hold of and manage a small plant entirely and make money, when you are without any special knowledge of business methods. These have to be learned, just as composition and presswork have to be acquired, and if you go in blindly, you will make as big a blunder of the whole business as would a plow-boy, who came green into a printing office, and essayed to take charge without serving an apprenticeship. Everything in the business world has to be learned; such knowledge can be picked up only by patient study and observation. Let the employee who has an itching to go into business take a year or two first to study the methods of successful printers, and in reading the trade papers, and in getting at the cost of work. If he does this faithfully, the chances are that in most cases after two years of investigation he will say to himself: "What a lucky thing that I did not start in when I wanted to. I can see now that I was so green that I should have lost every dollar. Perhaps I have a good deal yet to learn; I guess that I will wait another year."

Thus by learning the road first, and traveling it cautiously, may the active and intelligent employee hope to raise himself from the most humble position to one commanding the best salary, and finally place himself where he can embark with reasonable safety on the sea of business for himself, realizing the American ideal of independence, which in this case may be defined as owning one's own business and owing nobody.

CHAPTER XXIII.

DANGER IN SIDE VENTURES.

THE printer who has built up a successful little business is pretty sure to be solicited at times to engage in side ventures, or his own energy will often suggest to him the propriety of embarking in some kindred trade. Perhaps he will be sorely tempted at times to engage in some of these ventures, and therefore it seems proper to throw out a few hints that may be of assistance to the printer in making a decision in such cases.

As a general rule it is a safe proposition in business that one's energies should be confined to one line of work, refusing all allurements to sidetrack one's interest in the main business to which one must look for sustenance and an income. Those men who have made marked successes are usually great developers of trade; they give their best brains to the enlargement and increase of their original business and to the swelling of the legitimate profits. All the large printeries of the country were once small printing offices; that they have been developed to their present capacities shows the room there may be for development by others. Somewhere in this land to-day, are a hundred small printers who will have large printing establishments before another quarter of a century has rolled away, because of their superior push, intelligent hustle, and ability to stick to the one

thing and make the most of it. No man ever achieved great business success by pushing a hundred schemes and ventures at the same time. There is a limit to ail ability, and he who draws his thoughts, his time or his money away from his printery must expect that printery to suffer, to stand still, or at least be retarded from growing as it would grow if it had the benefit of all his best ideas and of his personal supervision.

A man cannot hope to be a successful printer and at the same time run a grocery, carry on an express business, hold office, engage in stock companies, and give his time to this, that, and the other thing. Too many irons in the fire have burned because of distracted attention. If you have decided to make printing a business, and have half a show in making it go, stick to your print shop and build it up, and let side issues alone until you have done so well that you have surplus money and surplus time to invest. As surely as you go into other things you will neglect your printing office, and perhaps reduce or cut off an income on which you could otherwise depend absolutely, for a speculation that may bear nothing but Dead Sea fruit.

Of course there are times when a man does well to abandon printing and go into some other business, but with such cases this book has nothing to do. If a man has a printing office and is making it pay or can make it pay, it is his business as a printer to push that business in preference to everything else. If he listens to allurements to go into any foreign line he must look largely to that line for returns, for he must expect the printery to suffer. When the printer has an almost irresistible desire to go into some side venture, the wise thing is always to wait; and when his printing trade is more solidly

established, when he is free from debt, and has the cash to put into something else, then if he still has the desire to try the side line, and can turn over a portion of the care of his business to other hands with safety, and without losing the reins, then perhaps he may gratify his wish to try the other business, for if he sinks all he puts into it, he is not ruined, and still has the printing business for support. But it is little less than suicidal for a man who has a printing office half paid for to take receipts that ought to go to reducing his mortgages, and invest them in outside schemes. Such a policy persisted in rarely fails to bring entire ruin.

There are many kindred lines of trade, however, that tend to build up a printing office, such as binding, publishing, journalism, electrotyping, etc. It is often the case that some of these may be taken up with increased profit to the printery, and with great chances of success, because one branch of the business feeds the other.

Perhaps the publication of a newspaper or periodical is the sort of business most frequently offered or suggested to the printer as a side venture, and many times such publications are started and become the mainstay of a printing office, bringing it directly or indirectly the most of its work. Yet it must be borne in mind that nineteen out of every twenty publications fail to pay a profit, and cease to be issued, and that the printers who take an ownership in any of the nineteen may be greater losers than if they had been simply hired printers to do the work, with no interest in the profits that never came. It is only in the twentieth case that the publication lives and pays, and it is a very shrewd

printer who can determine in advance which publication of the score is going to tally a success.

Extra caution should be exercised before making any investment or taking any chances in the publishing line. If a printer has also a practical training on the business side of a newspaper, trade paper, etc., understanding how to make such a publication pay, he may often run one advantageously in connection with his printing office. But for a printer who is only a printer, and who knows nothing of journalism, to plunge into a newspaper venture simply because he has the type and presses to get it out, is almost sure to be an unwise undertaking. Newspaper publishing is a business not learned in a week or a month, or a year, and to experiment in it is to invite the loss of money. If you have a printery and do not know the newspaper business, better stay out of it, or if reasons present themselves that seem to force you to go in, at least get a partner, or interest a trained journalist who knows what he is about, that you may have a chance of getting returns for the money and time you put into it.

If you do go into a newspaper or publication of any sort, keep separate accounts for the different parts of the business; otherwise you may err in your judgment as to where profits come from. You may be sinking the profits of the printery in the publication without realizing it, if you do not keep the figures before you; or you may make a go of the publication and be carrying on the printing office as a dead load. Do not allow accounts to get so mixed that you can deceive yourself in such matters.

A bindery is a common adjunct of a printery, and often it may be well to add one to the plant if the

printery has work enough to keep one going, and a competent man can be found to run it. But binding and ruling is a close competitive business, like job printing, and unless such a branch is run intelligently, it will not pay. If you do not understand much of the business, and if you have to depend much on the work of other printers to make it pay, better stay out. It is wiser to pay ten per cent. more than cost to some reputable binder to handle your work, and have it done rightly, than it is to do it yourself, and divert time from the printing office, when that time is needed there.

The same is broadly true of electrotyping. A printing office having enough work to keep a foundry going may do well with one, but as it requires a very large printing plant to support a foundry this is an exceptional case. The printer in a large city, having a moderate business, who considers the starting of a foundry to supply other printers, must bear in mind that his competitors in printing are not likely to prefer to send their work where he can inspect it and know what they are doing. They will prefer to patronize some other foundry. In a moderate sized city, where no independent electrotype foundry exists, it is frequently a good investment for the largest printing office to establish a small foundry, and do its own work, thus avoiding the delays of sending forms to another city. Such a foundry may reasonably be expected to obtain the patronage of printers in the same city, because of the nearness and convenience, and such work may be profitable by filling in the time of the men. In the course of time, however, such a foundry, if located in a growing city, must expect to lose its outside trade to some well-managed foundry,

that will be established independent of any printing office. For these reasons electrotyping, though, a good business in itself, is commonly a poor business for the printer to engage in.

Many printers find politics inviting, because of the large amount of printing to be given out by town, city, and state governments. They sometimes seek office in order to control such work, and as the prices paid are apt to be much above ordinary commercial values, the bait is often very tempting. But those who have been through the political mill know that in the end it usually costs as much or more to get a political pull as it is worth. Men go into politics for business profits, as they go into trade. The printer who goes in ordinarily finds that the demands made on his time and pocket-book offset the extra price obtained for the work he gets, and the methods that have to be resorted to are only too apt to destroy his sense of probity and honorable dealing. In small towns, where there are but two or three printers, it is often, nay usually, wise for a printer to take enough interest in the success of his political party to secure their work, but aside from this the wise rule for the average printer is to let politics severely alone.

As for investing in stock companies or the like, when the wily promoter comes along and seeks this method of getting printing without paying the cash, there is but one safe rule—keep out of them. If you must invest outside the printery put your money into things that you can control and understand. No stock company controlled by strangers is going to give up to you large profits when they are made—which they ordinarily are not. The best of them, when they

succeed, will only let you have six per cent. on your investment, and eat up the rest in salaries or emoluments to the originators and larger holders of the company's stock. The printer should be equally shy of all new things in which he is asked to invest, either in cash or by giving printing. As a rule they will not pay, and the printer is only asked to go in to give some one else a chance to make money, himself taking only chances of getting back a portion of his investment. Such things are all gambles, with the odds against you.

When a printer really has arrived at that happy stage when his business is so prosperous as to require no further investment, and his earnings seek some other outlet, he has commonly acquired such a knowledge of the world and of business methods as not to require any advice from the author of this book. Such a man is not easily led into schemes and unprofitable ventures. Yet even such must keep an eye on themselves, and see to it that their caution does not wane because of continued money-making. There are more than a few who make mistakes after amassing wealth, and demonstrate that it is as much of an art to keep money as to make it. Let the printer whose cash seeks outside investment look for those things which yield small but safe returns. Think not of the amount of the interest, but of the safety of the principal. There are members of our craft who become large holders of real estate, and in established business properties. These do not speculate; they take hold of only sure things. If such a one were approached for advice by younger printers whose businesses are but half built up, with queries as to the advisability of going into some side venture, I am sure that the advice would almost always be—don't.

CHAPTER XXIV.

SYSTEMATIC SAVING.

THE object of doing business is to make money; that object is largely defeated if a portion of the money made is not saved, giving the earner an accumulation for emergencies and for old age. The man who makes money and spends it as fast as it comes in has little more reputation among his fellows than the man who cannot earn any money above a bare subsistence; he is not a force to be counted on in the commercial world; he cannot take hold of and move any large enterprises as can the man who accumulates and thus possesses reserve power. I do not know that printers are any more apt to neglect saving than those in other trades, for as a rule the world is improvident; where one saves there are always ten to spend. This chapter may therefore apply quite as well to men in any other business, yet I hope that all printers who read this book will consider this chapter quite as important as any other that may deal more directly or more closely with the printing interests.

The proverb has it that "you cannot have your cake and eat it, too;" which one may interpret for the present case as meaning that the printer who spends all that he earns secures no benefits for the future, only those of the present. The object of going into business is often largely that a man may have something that will earn him an

income when he is sick, or on a vacation, or old and partially incapacitated. Whether a man's business brings him in \$20 or \$200 a week, it is his duty in seeking the highest good for himself and his family, to save for the future. It is always possible for the man who earns \$20 weekly to lay by \$2; and the man who earns \$200 a week may lay by \$100. But the amount to be saved is of less importance than is the fixing of a habit of saving systematically. The man who has a rule for saving, who obliges himself to save a certain percentage of his earnings, whether in good times or bad, will sooner or later attain a competency; while the man who saves spasmodically can never be very sure what he will accumulate.

It is a matter of common observation that few persons can save much unless they do it systematically, engaging in some way to lay by so much regularly, instead of economizing haphazard as they feel like doing. For a systematic means of forcing one's self to suitable saving, I know of nothing better than the building association or life insurance. Each involves regular stipulated payments, which must be met, or a slight loss follows, and this stimulates the individual to keep up the saving, so that in time it becomes a habit.

The building association almost universally pays at least six per cent. interest, and forms a convenient means for an investor to lay by a stated sum every month, that may accumulate without his feeling it materially. When the sum invested amounts to a few hundred dollars or more, and the investor has use for some money temporarily in his business, as for the purpose of obtaining a considerable discount, he can

use the investment as security for borrowing very nearly its face value. This is done in various ways, some building associations making temporary loans to their members, in other cases local banks advancing on three months' notes with the building association stock as collateral. But, whatever the special plan of any building association, it is a recognized portion of the value of the investment that it allows the investor to use the money at intervals when he sees an advantage therein; and this is specially valuable to the printer, who is often buying considerable quantities of paper, or a new press, or a composing-machine, or an outfit of type, and who can save ten to fifteen per cent. thereon by buying for spot cash. It is also a very material advantage that the payments are required monthly, thus in a manner enforcing the regular saving of a certain amount. I know of no class of business to which the building association plans seem to appeal more strongly than to the printers running small or medium sized offices.

Similar arguments apply to investment in life insurance. Every careful man with a family provides for the future of his little ones, and the insurance policy affords a way of making a larger provision than can be done otherwise in a short time. The modern plans of policies are so favorable, that after a few payments a loss is not possible, and in time, policies have borrowing value also, like the building association stock.

Let us suppose that the average printer in business could afford to save only \$5 a week, and that he puts \$2 of this in insurance and \$3 in a building association. If he is young the insurance money will pay for a \$5,000 policy, which is enough to make him feel that his family

would not suffer seriously should he die prematurely. The \$3 a week invested in the building association will have a borrowing value of \$500 in three years, and in ten years will amount to \$2,500. If the printer has managed his affairs in the printing office wisely during that period, so as to add a few thousands to the value of his plant and increase his income, he can then begin to feel that he has made a success, and can take life more easily, knowing that his future is secure.

Another reason why the master printer should invest at least a portion of his savings outside of the printing business is founded on the policy of not placing all one's eggs in one basket. Accidents will happen in the best managed printeries, and if some chance that cannot be foreseen wipes out the printery and the labor of years, there is then the outside investment to fall back upon. The failure of a large and trusted customer, a flood, or a riot, or some similar disaster against which insurance is impossible, have wrecked printing offices before now, and will again. Man is helpless when Fate intervenes, and he can only exercise a wise precaution in all his business affairs. One of these wise precautions certainly lies in a regular investment of savings outside of the printing office, and I consider that the printer who fails to do this is making as much of a mistake as the printer who fails to insure his property.

There will be many printers in business who will dissent from the idea of investing outside of the printery, saying that they prefer to build up their offices, and put back into the business everything they save. This sounds well, and I admit that the policy is carried out satisfactorily by many printers; yet, I feel confident that the importance of outside investment

should always be considered by every printer who saves. Once well started it permits the raising of cash, and consequent discounting of bills, in a way that can not be done if the money is in printing machinery. No bank cares to loan money on machinery; it is regarded as most unsatisfactory security, and rightly, because its value falls fifty to seventy-five per cent. as soon as the owner has no use for it. Then, again, the printer who thinks he is saving by investing in new machinery for his plant is liable to delude himself. How often has some such colloquy as this been heard among proprietors of the smaller printing offices:

A—"I made \$2,000 last year above my living."

B—"That's good; where is the money?"

A—"Oh, in the business. I have \$300 more of book accounts than last year, and bought \$1,700 of new machinery."

How very possible it is in such a case that the \$300 increase in accounts will always be dead on the books, and that the \$1,700 of new machinery was needed to keep the plant up to its former standard, so that there has been no real saving. If *A* had put money in the building association he would know certainly that it was saved.

If there are savings, it is often the case that new machinery for the printery is not really needed, so that it is unwise to reinvest the money. There are printers who buy new type and new machines principally because they like to see them come in. Every true printer in business takes a lively pleasure in seeing new material added to his plant; but this is a feeling to be guarded against rather than encouraged, for the object of doing business is to make money, not to gather

together a great collection of tools and machines. Let the printer therefore always be careful about enlarging his plant, remembering that there are other investments which may prove more profitable, and that it is best to consider these carefully before deciding on an increased capacity of his establishment.

The plan of investing savings in new machinery or type is sometimes a disastrous one, in that a printer finds himself with too large a plant for the business that naturally comes to him, and so is led to go into the field of others and cut prices in order to get more work. This sort of investment of saving is as wasteful in its results as spending the money in racing and riotous living. Machinery should be bought only when it is imperative—when large permanent orders will be lost if it is not purchased. For further and fuller suggestions along this line see the chapter on “Buying.”

The printer who would be successful in business has to consider yet another side of the question of savings. Thus far I have written only of what the printer might or should do with his savings from his earnings or profits in the business. In order to have such savings in pocket he must practice a wise economy in all things, and save all unnecessary expenditures. I do not mean to counsel a niggardly course or extreme penuriousness, for I believe that these are as close to financial suicide as over-liberality. A man must avoid the reputation of being mean, at the same time that he must manage to save wherever he reasonably can, and to stop unnecessary outgo. This is gone into at length in the chapter entitled “Leakages.” It is manifestly a bad plan to try to save money by cutting down wages of employees, who are thereby put out of sympathy with the office; it is also

bad to purchase only cheap grades of paper and ink, or to gratify a miserly taste for low rents and cheap surroundings to the damage of the reputation of a business. The true way to save is to see that you get what you pay for; that every employee gives you the full number of hours; that every press is run at the best speed of which it is capable without damage; that you do not pay for useless and unnecessary small articles, much less large ones. It is a real saving to discount a bill for new type, when it would be no saving to buy some second-hand type at a less price; it is a real saving to spend enough money on bookkeeping to know just where every cent of your money goes, and to study the figures occasionally and learn whether there are not some useless expenditures.

No man can get very far ahead in the world who does not cultivate the habit of saving. No income will stand continued extravagance; every man who has earned a fortune has learned the lesson of wise economy. There are few wealthy men in the printing business, the cause being more due to undercharging than a lack of saving; yet there are many who would prosper if they gave as much attention to economies as they do to figuring down the price of work. One thing is certain, that the printer who saves regularly and systematically will never be sold out by the sheriff as long as he adheres to the policy of laying by a part of every dollar that he makes.

CHAPTER XXV.

PARTNERSHIPS.

AN entire book might be written concerning partnerships, without exhausting the subject, leaving yet many last words to be said on many phases of the question; in fact, there are books treating the matter at great length from a legal standpoint. The conditions of trade are such that partners are frequently essential to carrying on a business. In other words, I may say that partnerships are a necessary evil, for in the abstract, a partnership is a thing to be avoided. A man should own and control his own business, and have his own way, if he would get the full satisfaction of doing business, and reap the entire reward of what genius he may possess. The writer's advice to all printers is that wherever possible the best way is to "go it alone" and avoid partnerships; because this is not always possible, this chapter is written.

A partnership should not be entered into without extreme care and positive evidence that it is necessary to the conduct of the printery. Making a partnership is like getting married—it is for better or worse, and it is very difficult to know which until it has been tried for a few years, and if it proves for the worse it is hard to get out. It is a foolish plan to take a partner, as many young printers do, solely for company, to have an associate with whom they can talk over business

matters. Partners should be taken because more brains, more superior oversight of the kind that cannot be hired, is required for the proper conduct of the printing office, or because the money brought into the business by the partnership is absolutely needed for its profitable continuance.

The chief difficulty with a profitable partnership arises from the fact that when two or more men become owners in a business there are then two or more separate and distinct interests in control, and what may be to the interest of one may not always be to the interest of another. Human nature is selfish, and each partner is apt to want his own way, and one will want more leisure than another, or one will want to make expenditures that another considers foolish, and so on; the possibilities for dissension being in existence all the time. Only a wise forbearance on the part of all, and a sincere effort to subordinate one's own desires to the good of the whole business can make a partnership an entire success.

In considering the acceptance of a partner, first figure on the value that his money will be to the business, and determine whether it will certainly enable you to make a larger profit from the half or other fraction you retain, than you would make from the whole if you had it by yourself. If you feel assured that the money is positively needed, and that your remaining portion of the business will yield a larger increase for the investment, then study to see whether you cannot get the money in some way without the man, and whether this would not be the most profitable arrangement for you.

The character of the person taken as a partner is of even greater importance than the money he may

bring to a business. If he is not honest, he is dear at any price; if he has cranky notions, he may prove a perpetual thorn in the side; if he be lazy, he may not earn his share of the profits; if he is careless or reckless, he may ruin the concern; if he is incapable, he may prove a heavy drag on the business; if he lacks intelligence or business capacity, even though willing, he may in time become an intolerable nuisance. A partner should be a man who can be relied upon to manage some branch of the business without being told how, one who can relieve others of a portion of the cares of oversight, and who is capable of making his department profitable. A good printer and inside manager may find a good partner in one who is a natural salesman, and who has the capacity for taking orders at good prices. If each is good in his sphere, the two may do better together than they could do apart; in fact, they may sometimes be really indispensable to each other. But where there are two partners, both naturally inside men, or both naturally outside men, there is no good combination. The firm of inside men will be apt to do good work, and not much of it, with little profit; and the firm of outside men will be apt to pile up a large number of orders, and do cheap and unsatisfactory work. There are many partnerships that fail though both men are really capable and pushing, because they happen to be wholly unsuited and unsatisfactory to each other, and continually interfere with and upset each other's plans. Many of us have seen printing firms composed of partners and doing a trifling, petty business, but who on separating and going into competition have each prospered and made money that they never could make when together.

When a partnership has been fully decided upon as the most advisable thing, the next thought of those interested should be to put the terms in writing so plainly that there can be no room for differences later. Everything that is expected of a partner should go down in black and white, and if possible a penalty should be attached for neglect of duty. A way should also be provided for closing or winding up the partnership, or withdrawing from it without involving later dispute. The more completely these things are gone into on paper the less likelihood there is of future differences and disagreements. Do not be afraid in drawing up partnership papers that you will hurt anybody's feelings by specifying everything that you expect of your partner; get in everything, and tell him to get in everything that he expects of you. When you have all the points down, go to a good lawyer, one whom you are sure that you could trust, and get him to put them in legal shape, and when the papers are signed you will be as safe as written agreements can make you. Do not think because you know a man well that you can omit the formality of drawing up partnership papers, or that the merest skeleton of papers will do. The writer has known of two partnership cases, in both of which the men were hard workers and intelligent, yet, who lost every dollar they put in certain businesses, because they carelessly assumed that there was no need of partnership papers. The printer who is wise will not take any chances, but profit from the experience of others, and so avoid the almost entire losses that come when there are partnership suits and receiverships growing purely out of disagreements and misunderstandings.

A man who has not been in a partnership, or who

has never come in close contact with a partnership dispute, can have little appreciation of the way in which partners in business are tied to each other's acts by the law. One partner becomes virtually responsible for the acts of the others. If one runs off with or squanders the partnership property in the most thievish manner the sufferer has no remedy through criminal prosecution. One partner can do anything he likes with any and all property connected with the business, and the only remedy of the other is a civil suit at law, which never brings any saving or satisfaction. No matter how large or profitable a business may be, if the partners get into a desperate quarrel and invoke the law, the entire assets are almost sure to be frittered away and dissipated, affording only pickings for lawyers and court officials. The printer who gets into a serious quarrel with a partner is advised by all means to settle it in some manner, no matter how much he has to give way, rather than to call upon the courts to settle the dispute. There is no money in lawsuits, except for the legal fraternity. When a difference between partners become so grievous as to threaten the business, and the terms of a dissolution cannot be mutually agreed upon, it is a wise way for each to put all his affairs in the hands of a trusted friend, assigning full powers to the same. The two friends so named can then choose an arbitrator, and the three together can arrange a settlement, to the acceptance of which the two partners should be absolutely bound in advance. In this way a reasonably fair adjustment of difficulties and a dissolution can be made, without wrecking the business, which both have an interest in seeing preserved.

A small printing office does not need more than

one head, while a large printery often demands a number of executives, because there are more important things to be decided upon than one man can attend to. It has sometimes been thought wise by men having a prosperous and growing business, to interest the most efficient of their help as minor partners, and qualify them to take executive charge of certain portions of the work. The best way to do this is usually through the organization of a stock company, which is a flexible sort of partnership, permitting ownership of small portions of a business, and the retaining of the control by the larger owner or owners. Personal liability can be avoided, this being one of the serious dangers in a simple partnership. The incorporated company form of organization allows a business to continue after the death of the principal owner without being tangled up by executors, contested wills, etc. Every large printing concern, in which more than one man is interested, should take advice on the matter of incorporation, which is now universally recognized as the safest way of carrying on trade where many interests are involved. In a company, the principal proprietor may retain his majority of the stock, and take in capable men to run the departments, allowing them such minority holdings as they are able to pay for. The partners so taken in under a proper arrangement would have to earn their salaries afterward just as much as before taking stock in the firm, as they would be as liable to discharge if inefficient. No contract should ever be made with a minor stockholder that would make it impossible to dismiss him from a salaried position should he become unsatisfactory. Sometimes it happens that a man who has been very efficient as a foreman or superintendent,

on being admitted as a partner, becomes so puffed up with importance, getting what is slangily called a "swelled head," that he is no longer valuable to the business. There are instances where such men who have been advanced for faithful services, abandoned their good habits, and took to coming down late in the morning, going out during business hours, and generally conducting themselves as though they were no longer expected to work and earn money for the business. The only wise thing to do in such a case is to discharge the man; but if an agreement has been made which prohibits this, the firm is in a bad fix, with an unprofitable load to carry.

I recall a corporation that made an agreement with a most valued head of a department that practically bound them to pay him \$75 a week during the life of that department. Within a few years the man's attitude toward the firm was wholly changed, and he became a general nuisance, coarsely throwing it in the face of the principal owners that he was there to do as he pleased and draw his \$75. Eventually the firm sold a very large and prosperous portion of their business, much below its real value, for the purpose of getting rid of the man whom they had placed in charge of that department. Such an experience was a most costly lesson, even for a large money-making concern, and it is safe to say that the owners never again took a minor partner in a way that made it impossible to discharge him if his services did not continue to be profitable.

Of course when a head of a department in a printery is asked to take stock, and invest his money with the concern, virtually becoming a small partner,

he has a right to demand that his salary be guaranteed to him, and his position made permanent, but a clause should always be inserted in the agreement permitting the company to repurchase his stock and put him out, if for any reason such a course is desirable.

Whether the men interested in a printing office are partners in the ordinary sense, or whether they are simply stockholders and officers of a company, there should be a definite understanding between them as to what portion of the business each is to take in charge. The supervision should be divided up according to the capacity and tastes of the several members of the firm, and while all should consult together on important matters, yet each one should be allowed to run his own department largely in his own way, without interference, which breeds hard feelings and upsets the friendly relations which are so valuable in a business partnership. If each firm member has charge of a distinct branch of the business, and monthly reports are made to all the members of the progress of each department, then each man is put upon his mettle to make a good showing, and the one who falls behind will feel that he has to keep up the profits of his department, if he is to continue to share in the profits earned by the other more prosperous departments.

Regular conference between the members of a firm or company is a valuable factor of success. It prevents large blunders and insures the taking of the wisest course that united wisdom can suggest. A business that is not progressive is pretty sure to be retrogressive, and when the members get together regularly and exchange views, plans for increasing trade are more

readily developed and executed, thus keeping the concern in the van of business progress.

Printers who engage in business in the ordinary partnership way should remember that it is necessary to exercise mutual forbearance in order to work together harmoniously. They cannot always think alike, and each may honestly believe that he is the brains of the business, whereas the chances are that both contribute materially to produce what success is attained, though the methods of each may be widely different. There are men who work together as harmoniously as the parts of a clock, year after year, with a perfect understanding as to what each expects of the other, and to mutual satisfaction; but this would be impossible if one was always watching the other, and finding fault when little things went wrong. Everybody makes errors, and things will not always run smoothly under the best management, though it may be very easy to point out afterwards how mistakes might have been prevented. Human hindsight is much better than human foresight, and a man cannot always be sure that he is doing the best thing until it has been done and the results are apparent. Partners must remember, that all are fallible and make the same excuses for each other that they would make for themselves, when results are not quite what they had hoped.

If you have a good, honest, careful, practical partner, who will carry his share of the business load, you are in luck, and should be very careful not to separate from him, unless positive that it is for the better. While I am in general opposed to partnerships, it is because of the frailty and uncertainty of human nature, and not because a partnership may not be an excellent thing.

where that rare combination is found of two or more men working as one intelligent machine, and securing the benefit of the best points in each, and the corrective judgment of all, in combination. Such partnerships are almost certain money-makers, and it is too bad that they never can last more than a few years, for, in the very nature of things in this transitory world, partners drop out, and the old combination of unity is apt to be lost.

To sum up the whole matter of partnership in a few words, I would say, avoid them when you can; give the preference to a corporate company when you must ally yourself with others in business; if in the partnership lottery you secure one who is a jewel and a money-maker cling to him; and never forget that partnership agreements should be of the most positive character, providing a way to get out of the partnership, if later it prove undesirable.

CHAPTER XXVI.

LEAKAGES.

No printing business can be made to pay a good profit unless a careful watch is kept to prevent leakages and loss in conducting the details of the work. Five or even ten per cent. of margin may disappear with no apparent reason, where there is no vigilant eye or exact system for maintaining economical production. It is astonishing how the little drawbacks to profit will creep in and multiply whenever it is not the business of some one to watch for them and keep things moving advantageously. Wasted time is probably one of the most prolific sources of loss in the printery. It may occur anywhere, from the partner who loafs and calculates that his money invested is enough to earn his salary, to the errand boy who stops around the corner to play marbles. When a partner will not earn his salary, the other partners should cut down his privilege to draw on the funds if they have the power, or try to replace him with a live worker if they cannot reduce his pay, otherwise they are carrying a load that may be disastrous to themselves. If a foreman, superintendent, solicitor, office man, or other one employed in a superior position, wastes his time, it is better to replace him as quickly as possible, for the chances are that such a one will never improve without a severe lesson, and is too set in his lazy hallucinations to be

reformed. If any one in charge of a department or the like permits the waste of time of those under him, and a first remonstrance fails to remedy the evil, he also should be a candidate for dismissal or reduction to the ranks.

I remember a foreman in a large composing-room who was very efficient generally, and who would push work through most intelligently, and get an enormous amount out of the men when there was an abundance of work in the office, but who had one weakness that made him a failure as a foreman. He could not bear to lay off anybody when work was dull. During the rush months he did his full duty by the house, but during the dull ones he would keep on sometimes twice the force that was essential to the work in hand. The inevitable result followed—the concern, which was a corporation, in a few years spotted the leak, and put that foreman on journeywork in another department, replacing him by a man who recognized that his business was to make that composing-room pay, and that he had no right to sacrifice stockholders' money in charity.

Waste of time on the part of employees in subordinate positions does not necessarily call for discharge, as it is more apt to be the result of inferior supervision than deliberate laziness on the part of the men. It is in the nature of most men to take things easily, and it is the business of those above them to see that they do not waste their time through wantonness, or what is more common, some ill-advised method of work. I have seen half a dozen compositors working on a long job of tabular matter, and one of the lot doing twice as much as the average man, and more than three

times as much as some others, and nobody keeping any record of these results. It should have been the foreman's care to have the fast man instruct the slow men on the job as to his methods of handling the tables to get results; if they could not grasp them, then he should have shifted his men and put in others on the tables who knew how or could be taught how to do tabular work to advantage.

In every printing plant it is essential that some one have head enough to look after leaks of this sort, and see to it that the time of all hands is advantageously employed. Even in what one may call the best offices there is frequently a great waste of time in the various departments through some fault of system or general oversight. In large offices superintendents should receive daily reports embodying full details, and look them over regularly for evidence of leakages. For further pointers as to avoiding waste of time, see the chapter on "Management of Employees."

The item of spoilage is one that is often overlooked and for which no provision is made in estimating. It is safe to say that no printing office can be conducted without some loss from this cause. Where this loss is minimized, it is the result of the utmost precautions, which precautions in themselves constitute an extra expense. There is a multiplicity of causes that lead to spoiling a piece of printing, and some of them are so small that it is a wonder that they do not occur more frequently than they do. The misspelling of a word, the dropping out of a letter, a mistake in punctuation that changes the sense, the shifting of a guide, accidental offsetting caused by backing up too soon or from piling the work too high, smutting from careless

handling, uneven color, careless feeding, and numerous other errors or accidents familiar to every experienced printer, are prolific in causing spoiled work.

In an office where proofs and revises are passed upon in the usual way, a careless pressman may reverse a small cut that he has taken out of the form for some purpose, or a feeder who knows nothing of type may discover a few letters pulling loose, and in the endeavor to make them tight, remove and transpose them. These dangers can be avoided only by ordering a revise sent to the proofreader every time a form is touched. Blunders will be made by even the most careful pressman. An electrottype-clamp that does not hold fast properly, may work loose and allow a plate to slip out of register, so that reams of paper may be marred or spoiled before the slip is discovered and remedied.

Then there is the customer who claims that the instructions were not as the printer understood them, and who refuses to accept the work on this account. Any of these losses, while sometimes appearing insignificant at the time, may really mean the loss of a good customer, and in the aggregate amount to a considerable sum. If the printer's business is conducted on a close margin—as usually it is—this will naturally cut into his profits. An allowance of two per cent. for spoilage is not any too much in the job printing business. The chances are that it can be kept down to this figure only by unceasing care and watchfulness, and the rigid enforcement of rules for verifying corrections and orders. A writer in a newspaper trade journal has aptly said, "No amount of cussing will change the date after the edition is worked off," and

this may be paraphrased by the jobber to suit the case of the error found in a job on or after delivery to the customer.

The only practical time to stop spoilage is before it occurs, and an expense of about one per cent. of extra vigilance in looking for blunders before the final printing is a good insurance against this form of loss.

The business of some printers is damaged by severe leakage through the machinery they use. The exercise of due care and forethought in the handling of machinery is essential to avoid loss through breakdowns and stoppages. This form of leakage can be stopped only by preparing in advance on the principle that "a stitch in time saves nine." A continued squeak or unnatural jar or rattle in a press should be attended to when it is first observed, and not allowed to continue until serious damage results. Regular examination of the machinery and overhauling in dull seasons avoids the loss incidental to stopping during periods of rush, as is more fully set forth in the chapter on "The Pressroom." A waste of power is a common source of loss, through inattention to the shafting and belting, which are allowed to run hard. An individual motor electrical equipment avoids this, and shuts off that chance for leakage.

Waste of paper or card stock is very common in the printery, and is often disregarded by the men employed through the idea that it will come out of the customer, and therefore will not be noticed. It does not pay to permit such a notion to become prevalent among one's employees. If they are allowed to give short count to the customer, the proprietor will have no one but himself to blame if they learn to give short

count to him. The only right way, the only profitable way, is to insist on full count to every customer, and allow enough paper for reasonable waste and spoilage. This should be accomplished through such a system of counting spoiled sheets as will show who spoiled them, that workmen may have on them the check of knowing that carelessness resulting in waste of stock will be known to the employer.

In cases where stock has to be cut, there is liable to be loss through miscalculation as to the best way to cut to get the greatest number out of a sheet. The man who operates the paper-cutter should have a clear head for figures, that there may be no undue leakage here. He should be provided, also, with computation tables and mechanical helps for easy calculation of how many of certain sizes may be got out of a ream of standard sizes, thus minimizing such dangers as the cutting up of twice the required quantity of stock. It is necessary to have a method of protection from the error of cutting paper to size when a form is to be run double, or turn and cut.

In every printing office there is necessity for carrying more or less paper in stock, and this is liable to depreciate through dust and dirt, if it is not kept very carefully protected. Only by wrapping up in sealed packages and by insisting on cleanliness in the paper stock department can loss be avoided through the dirtying of paper on the edges or on the outer sheets of the quires. There must always be more or less loss on paper by cording of bundles, broken outsides, etc., also by handling for packing after printing. Nothing but continual care and watchfulness will keep down the loss on these details.

In some special methods of printing more than ordinary waste is entailed, and must be allowed for in the estimate to avoid loss. Suppose, for instance, that one plate is provided from which to print three checks on a sheet for a check-book. The three passages through the press, and threefold chances for errors in register, smutting, etc., will increase the waste materially. A colored rule border also entails a lot of waste that the printer is apt to forget to figure on, if he is not specially familiar with such presswork.

A common cause of loss in inks is the drying up of expensive colors that are allowed to stand exposed for a long time. Waste is also entailed by attempts to mix colored inks to get another color, when the mixer has no knowledge of the components of the two or more inks employed. The result may be a mixture of incompatible substances, and the production of a compound that will not work on the rollers, spoiling the whole lot. It is better to trust to the ink man for mixing tints, and pay him for his experience, than to experiment with high-priced inks.

Another source of leakage is through neglect to buy closely, and to take advantage of all cash discounts. This is treated of fully under the chapter on "Buying." The printer who fails to do his purchasing carefully and economically leaves himself a hard road to profit.

One of the best ways to stop leaks is to win the interest of employees, so that they will have the disposition to work for the real interests of the house. Andrew Carnegie, the multi-millionaire, has been quoted as saying, "that no man can acquire wealth without being liberal, and giving those about him a chance to make something." He had over thirty partners, all so

devoted to the interests of his affairs, that he said, "he would rather lose every dollar of his capital and retain his partners, than lose his partners and retain his capital." Get the men who work with you to feel that they have an interest in the prosperity of the plant, that your success is theirs, and you will have so many more watchful eyes to check leaks in your business, and save you the profit that has been earned.

"Little drops of water, little grains of sand,
Make the mighty ocean and the pleasant land."

So little leaks unstopped make great breaches in the walls that protect the profits of the printer, and admit the flood that may sweep away the whole structure, producing ruin that, though inconsequential to the trade at large, is to the individual concerned the swamping of hope in tragedy. He who allows no leakages in his business is a tolerably safe man to bank on as likely to make a permanent success of his printery.

CHAPTER XXVII.

KEEPING UP WITH THE TIMES.

No printer can hope to continue in profitable business unless he advances with the times. It matters not how honest he may be, how good the work he knows how to do, how careful he may be not to underestimate, if he yet lacks progressive qualities, his establishment will some time arrive at the point of stagnation, and be closed up for lack of business. The ways that lead to success to-day require to be modified to-morrow, and only by keeping an eye open for development is it possible to remain in the van of business prosperity.

Take the single matter of printing presses. An office may be well stocked with good cylinders, but if ten or twelve years roll by, and no additions are made to the pressroom plant, somebody who has purchased later and faster machinery will gradually get the paying work from the establishment that has stood still. The march of invention is ever onward, and the printers who first avail themselves of improved machinery, steal a march on competitors, while those who are slowest to buy are placed in a condition of retrogradation.

A man must be apt to recognize when a change is coming over trade conditions, and to avail himself of

the natural advantages of such foresight. Take the matter of composing-machines, those offices that have been most enterprising, and made their purchases ahead of the crowd, secured the most work, not only in composition, but in very many cases in presswork, too; because as a matter of convenience the presswork follows the composition to avoid the nuisance of carting forms, and to enable easy corrections on the presses.

All of us have seen old houses, both in printing and other lines, that have built up a large and successful trade in one generation lose it in the next, not so much from wilful waste or foolishness, as from pure lack of ability to alter methods so as to meet new conditions. Whenever you meet a man who is perfectly satisfied with his business, and who brags that it is where it runs itself, look out for a failure within a dozen years. It is only the fellow who is perpetually on the lookout for better ways and better means who keeps at the top of the heap. While your satisfied man is stroking his whiskers in his complacency, there is sure to be some clever competitor working overtime to develop schemes for getting ahead, and some day he will find a way, and capture the trade of Mr. Complacency before he realizes that times have changed and that he did not change with them.

Take a lesson from your employees. Once upon a time the hand compositor was fat and well fed. He did not care much whether he worked to suit or not, for he knew that he would not have to ask for employment at more than two printing offices without securing it. He could afford to be independent, and he was. When he saw composing-machines coming

he regarded them with a curious interest, but never realized that they would take away his bread and butter. The younger and more progressive compositors learned the keyboard, and the more conservative typesetters were allowed to go. They were supposed to get in elsewhere, and at first it was not noticed that there existed any surplus of compositors. As the machines proved profitable, however, and began to sell with a rush, compositors went out by the wholesale, many of them never to earn another dollar in a printing office. Had these men heeded the signs of the times, and learned other branches of the trade, or looked up something to fall back upon when the change came, their livelihoods would not have been taken away. Just so with the employer who heeds not the gathering clouds that indicate coming changes, that are likely to sweep him away as ruthlessly as the hand compositor. Master printers should watch for every new thing in machinery or methods, or circumstances that tends to effect trade, and go for every advantageous thing that shows itself, striving to be among the first to make use of it.

When business is prosperous and the presses are humming with paying work and all is serene, do not take it for granted that things will always go that way. Dull times will come, competition will grow stronger. Your best men are liable to leave you, and set up for themselves when they see you making money, therefore, do not try to pinch their pay when you are prosperous. Make them feel that your success is theirs by broad liberality in dealing, and hold them to your interests.

Keep your eyes open for new processes, and investi-

gate the new things that are offered to the trade. Do not be afraid of wasting time on the salesmen who approach you with labor-saving devices and machines. As a rule they would not be there unless they had a good thing to sell, that would earn money or save money for some one. You can never be sure in advance which salesman may have something that you need to push your trade and keep you ahead, or at least, abreast of the crowd. Remember that a printing business is but one form of buying and selling, and that you should give as careful attention to the buying as the selling end. Do not shut yourself up and be so exclusive that a salesman cannot get at you. When you have a large plant be as easy of approach as when you had a small one. Sometimes you can get valuable tips from salesmen, and if you shut yourself off from them, so that they can only get at you second-hand, you only invite them to bribe your employees in order to get their goods into your place. Do not be the means of making such conditions, but rather invite everybody about you to be honest, by keeping temptation out of the way.

Read the trade papers, the advertisements, and even the circulars that come into your mail as much as you can. These are all helps towards keeping up with the times. Go to other cities, and visit, and talk with the men who run the successful printeries there. Most of them are glad of the opportunity to swap experiences, and tell of what they are doing. By telling them of your methods of pushing business, you can draw them out and learn their ways, and often profit by their experiences.

While the endeavor of this book is to lay down in

a general way the principles of action that should govern the conducting of a printery so that a profit may be reaped, yet it must be recognized that this can be done only in a general way, and that unless the reader has the patience and intelligence to follow and apply the rules that lead to success, he will not win the prosperity he seeks. The underlying principles of success are probably the same in all lines of business, but the application of them is different in the various avocations and in the individuals. Some men win business prosperity by methods apparently almost opposite to those adopted by others who succeed equally. As a rule, those men who have a grasp of large things, and who view business problems in a broad way, make the most money in the long run. They can hire others to look after the detail. The man who excels in working out details is apt to lose the ability to look at things in a comprehensive manner, and often goes on pottering with minutiae when some large thing in his business demands all his energies. These remarks are intruded here to suggest to the mind of the reader that to profit by this book, he must take it as a whole, and not undertake to guide his business by any one portion or detail of its lessons. Just because things change and develop, he must be on the alert to keep pace with these changes, and to understand that while the various chapters herein contained are each believed to embody sound advice from the point of view in which written, yet, that the march of time may lead to larger and somewhat different conclusions in some matters, and that he must keep his mind open to receive more and newer ideas as the world progresses and the industry changes.

We live in an age when mechanical and inventive progress has begun to develop so fast that commercial conditions are made to change with a rapidity unknown in earlier periods. It appears probable that changes of this sort will become more rapid in occurrence as time goes on, and that the man who runs a printery or any other business will have to make his money out of it in ten years, and then upset the whole situation and go at it again in a new way, with a new plant, if he desires to make more.

We have no assurance that printing will always be done from type, or on presses. Already we see many kinds of printing or reproductions accomplished in other ways. We can recognize that printing, in the broad sense of reproducing pictures and signs that represent language, must continue to exist as long as human intelligence remains as we know it; but we have no assurance that the methods of producing it, or of advertising, or of generally conducting business, are permanent. They may be simply an evolution. In these days evolutions sometimes transpire with amazing quickness. The wise printer will be ever ready, and when he sees signs of a change of methods, will be prepared for them.

It is not without a sense of regret that I dip my pen in the ink for nearly the last time in the preparation of this book. The task has been a congenial one, and as it has led me through the various details of development of a printery, I have inwardly sympathized with the beginners who had to toil up the hill of business prosperity, in which are so many pitfalls, for which they might be ill prepared. If the methods and principles which helped me along the road—and which

I have been able to gather as helping other printers who have made much more conspicuous successes than myself—if the gathering together of these in this book shall assist even a few hard working young master printers to the goal of success, I shall be more than repaid.

I love the printing trade. A choice bit of printing is a delight to my eye; and the click of the types and the whirr of presses is music to my ears. Though my time has been given of late years mainly in the business office, and my energies directed to printing for a profit, yet I have never wavered in my regard for the art for its own sake. The true printer is like the true artist—wedded to his craft. It is because many are so firmly bound to the art side that the business side is so often forgotten, and that this book is needed to remind us that it is a duty to learn how to make money in the business quite as much as to study the nice points that go to the making of a perfect piece of printing.

CHAPTER XXVIII.

SUGGESTIONS FROM OTHERS.

THEODORE L. DE VINNE.

THE DE VINNE PRESS.

“How to succeed in the printing business,” is a conundrum of the first class. We all know of men who have been able, honest, frugal, hard-working, and have not succeeded. Why they failed is not easy to explain. Accident and circumstance have much to do with success or failure, but there are personal qualities which seem to me necessary to success.

First of all, in my belief, is an understanding of the business. The proprietor of a printing house who has not learned the trade, who has not spent many years in composing-room or pressroom, does business as a manager under great disabilities. Nor is it enough to know how to set type or work a press. The good compositor or pressman cannot be fairly qualified to manage a business on his own account unless he has a knowledge of all the expenses of a printing house, which are always greater than is supposed. This knowledge can be had only by access to the account books of a well managed business. It is possible for the man who has

had no education as a printer, or for the journeyman who has never examined account books, to succeed, but the chances are ten to one against him. He has to depend upon information as to the probable performance of men and presses, which is usually overrated; and as to the unavoidable expenses of wear and waste which are grossly underrated. The men who furnish this untrustworthy information, usually his own employees, are innocent of any intent to deceive. They don't know how much it costs to do work, for this knowledge can be had only from a study of account books. They guess, and believe in their own guesses, but it is the unpractical proprietor who suffers from their mistaken guesses. Large corporations owned or controlled by unpractical men are the ones who suffer most severely from the faulty estimates of employees. Printing has been done, and is now being done, at from ten to twenty per cent. below its actual cost, while the owner of the plant is led to believe that he is making a good profit. In a business so managed the loss is not at once apparent. It takes many years to accomplish failure, but failure is sure to come.

A love for printing is equally important. The man who frets over the drudgery of details, who turns over to his employees work which he should do personally, who does not like to handle types or presses, or even to study their peculiarities, who wants to be an employer in a lordly and magnificent way, is sure to find sooner or later that the faulty estimates of his employees have assumed alarming proportions. There are proprietors who, having a fairly equipped printing house, and capital and credit, think that the business will take care of itself. Having wound up the clock,

they propose to sit down and see it run. There is no sadder mistake. No printing house will support its owner unless he does his best to support it. The complex machinery of his business (for it is complex when one considers that customers and workmen, banks and book-keeping, types, presses and material require equal attention), cannot be made automatic. To keep it in order often calls for constant oversight and frequent drudgery. It is not pleasant, metaphorically speaking, to put on overalls and get inside this complexity, with a screw wrench in one hand and an oil can in the other, tightening here and oiling there; but this is work that must be done, and no one should do it better than the proprietor. The drudgery is endurable to one who loves his trade. The printer who has his heart in his trade will take more pleasure in the ownership of a well-equipped printing house, and in the planning and making of fine jobs or books, than he would in the possession of fine horses or houses. The man who loves work for the work's sake may not always succeed, but he deserves success, and will get it if not prevented by misfortune or want of prudence.

The path of a novice in printing is full of pitfalls. I can mention but a few.

One is the giving of credit to irresponsible persons. There is no trade so frequently "worked" by visionary or dishonest customers.

Another is the desire to do more work than is practicable or economical within a fixed period. Work by night is usually a loss, even at high rates.

The employment of solicitors or drummers on commission to bring work in the house, is rarely ever a

success. One can buy gold too dear, and can get an increase of business at too great a cost. In the long run, the drummer becomes the master and not the servant.

The retaliatory spirit which prompts one to "get even" with a rival who has taken your work at a lower price is to be avoided. To take his work out of spite at losing rates does not benefit the taker. The sharp customer profits by this unwise rivalry. He makes and you lose.

The competition of unfair houses, especially of houses chartered to do religious work, and largely benefited by the contributions of the devout—houses misled in estimates by salaried employees—is a distinct misfortune.

It is a bitter experience to have attached custom leave you for an unfair rival, but it is an experience that every printer, large or small, has to submit to. In prize fighting, it is not the man who strikes the hardest blows who always wins the fight. It is the man who can "stand punishment" who oftenest wins. The young printer must prepare himself to accept unfair competition and hard blows without weakening. If he does his work as well as he can, and earns a reputation for fair dealing and ability he too will win. It takes time, but he will win.

CARL SCHRAUBSTADTER.

SECRETARY AND MANAGER INLAND TYPE FOUNDRY.

THE greatest curse of the printing trade is the fact that too many people go into it improperly equipped, not as far as plant is concerned, but in respect to

capital and experience. The four requisites for success in any trade are sufficient capital, experience, energy and ability. No matter how much of the last two the man may possess, without the other requisites he is almost certain to make a failure. Records of failures in the United States show that more people fail from insufficient capital than from any other cause, and this result may be largely traced to lack of experience. Some of the printers' supply and paper houses are largely responsible for this condition of affairs. They are so anxious to make sales that they will furnish a large proportion of the capital needed to embark in the business. As a consequence, the printer is handicapped from the start and cannot successfully compete with his more prosperous brethren. Almost invariably when a concern starts, it not only puts all its available cash into its plant, so as to cripple it for lack of working capital, but goes into debt for some of its material, agreeing to pay a certain sum per month to the supply house, which to the detriment of the trade at large, encourages such business. As a result, the concern is always hard up, and in order to get money to meet its payments when business is dull, cuts the prices below a living profit and gets worse into the mire. I cannot too strongly decry the lack of business experience in the average printer and the injury it is working to the trade at large. We all know of many printing offices, the managers of which have no practical knowledge of composition or presswork, and yet who have made a success of their institutions. On the other hand, we know a far greater number of proprietors who have thoroughly mastered the mechanical part of their trade, yet who are seriously handicapped

because they have no business experience. The average master printer has graduated from the case, invested his little savings in a plant, and started without any knowledge of business whatsoever. If he has prospered and succeeded, it is in spite of this fact and not on account of it. To successfully manage a business, a man should have had experience in passing on credits, in the intricacies of banking and financing, in selecting, management and training of office employees, in securing work, in buying and advertising to advantage. In almost every other industry attention is paid to these points, and the man who starts in business for himself understands most of them through the experience of others. Unfortunately, this is not true of the printing trade.

The printer too frequently deceives himself as to the profits of the business. The average workman thinks that his work costs him little beyond paper, composition, presswork and ink. He does not figure out his costs as accurately as he should, he does not keep his records as carefully as they should be kept, nor, in figuring on work carefully does he study the costs of previous jobs in order to arrive at the proper charges he should make. He is apt to take his customer's word for the price he has paid for similar jobs and base his own thereon. Often the data thus furnished are incorrect, and in many cases, with existing facilities he cannot take the work at prices actually offered by other concerns without incurring a loss. Unless he has the courage to refuse an order which will not render him a profit, at the best he will make only a precarious existence. Very few printers charge off a proper amount for wear and tear, and as a conse-

quence have not sufficient money to invest in keeping an office up to date. Running with worn out type and antiquated machinery, they can never hope to compete with better concerns. No manufacturing industry can stand still. It must either go forward or retrograde, and the large number of failures in the printing business is mostly due to this cause.

Despite such drawbacks, printing is by no means an unprofitable business. Although in many localities it is overcrowded, there is plenty of room on top; and every day we see and hear of concerns that have started up and are making money, and rapidly increasing in size. A very frequent cause of failure, however, is too rapid growth. The printer who is successful with a few platen presses is persuaded by a cylinder press agent to purchase a large press. Usually he has barely sufficient capital to swing his old trade. He pays out as a cash payment all his available money and does not stop to consider that with an increased business he will have to have more ready money to purchase stock, labor and power, and to carry his customers. I cannot too strongly recommend conservatism in this detail.

I consider that the best method for a printer to assure himself of success is to pick out a specialty. The most successful printers in a small way are those who carefully look over the field and select some particular branch to which they devote their entire energy. No one can do all classes of work to equal advantage. Very often you hear a printer complaining of the price at which a certain job of work was taken when the printer who accepted it may have exceptional facilities for turning it out cheaply and still make a

good profit. There are many branches of trade which can be worked up so as to produce ample work at remunerative prices.

Printer's advertising is understood by but a few concerns, and those few are uniformly successful. No trade offers such opportunities as this. The printer is the only one who can get his advertising at cost price, but usually it is spasmodically and poorly done. Many printers do not advertise at all and others confine themselves to hackneyed forms of blotters and poorly conceived and executed circulars. In order to be successful, it must be done carefully and systematically. It is useless to send printed matter to those who are not likely to be customers, and it is equally useless to send out advertisements which are not likely to attract attention or bring in an order.

WM. J. BERKOWITZ.

ON the first of June, 1899, our firm quit Job Printing and continued one branch of our business exclusively, viz:—the making and printing of envelopes. We decided about the first of January to sell out our job printing plant and began a series of advertisements looking to that end. Now we want to recite our experience that in itself may prove of great value to the hard working enthusiast that is wearing out his life and his machinery at the same time for the benefit of the man who buys printing.

We were doing a job printing business of \$65,000 a year. We could find no buyer for a printing business. There is no agency (we could not find any) that made a business of selling printing offices. A number

make it a business to sell newspapers. The man who is looking for an old established printing office is the man who has no money to buy new, up-to-date, modern machinery, and so you cannot afford to sell out, or give away, your plant to an irresponsible man without means. Men who do not understand the printing business will not venture into it, and men who do, who have been in the business for years, have no money to move and buy other plants. They have not accumulated anything. So we sold our plant piecemeal and at prices "under the hammer."

So the money you put into increasing your plant must never be figured as so much profit. Depreciation of plant and interest on investment are the opposing forces that wipe away every dollar of profit at the prices printing is done by the average printer.

In the face of the advance in paper and supplies the price of printing keeps going down. The first step, therefore, in the solution of this terrific problem is, get a legitimate price for work, a price that carries a margin with it without regard to the price cutter, or the man who is looking for "Fillers." Be independent of these. Lay down a principle in business "Your money's worth," and give it; but let us be honest to ourselves and add this personal profit "A proper return for time, capital, energy and brain," and no man will deny you this right.

I heard a prominent newspaper man say to one of our prosperous merchants, "The job printing business is the hardest and the meanest business that a man can embark in. The risk entailed and the small margin of profit, if any, and the loss on plant leaves the printer absolutely nothing."

No business has more details, demands more careful watching, entails more strain on the nerves, and requires more brainwork, and above all, pays so little. I wish every printer would make a text book of these chapters from the pen of Paul Nathan and study every page by heart. The broad common sense contained therein, backed up by facts and a few figures are convincing truths against the ruinous methods practiced by the average printer in every city in the United States.

J. CLYDE OSWALD.

THE chapters from your book, "How to Make Money in the Printing Business," have been received and I have been much interested in their perusal. In undertaking to instruct printers how to make money you have undertaken a big task, not so much because it is difficult to devise a plan to accomplish that desirable end, but because although the way be shown, the average employing printer seems reluctant to follow it.

Printers do make money. Look about you and the fact becomes at once apparent, for it is a fact that all the large establishments had small beginnings, and in nearly every case the money used to get the machinery and materials in these establishments together was made right in the business.

No fault is to be found with a printer on the ground that he does not *make* money, but he is to be blamed because he does not *keep* it. Look at the well-known printers in New York that we know, many of whom have been in business twenty years or more, that could not raise \$20,000 in cash no matter how hard they might try; yet each will agree, I think,

that he could have taken one or two thousands of dollars out of his business annually without much difficulty. Instead, however, they put the money, usually before it is made, in more machinery and materials, constantly adding to the plant, and never knowing what it means to be out of debt. A thousand dollars in the bank is so much money to the good that will continually increase; a thousand dollars invested in a machine becomes \$750 or less as soon as the machine is set up, and it goes on dwindling year after year. I do not advocate that a printer should not add to his plant—far from that; what I do say is that instead of reaching out for all the work in sight he should first get a better price for what he is doing; second, get something more than a living out of his business, and third, buy machines when he has the money to pay for them.

You will see that I have a personal interest in desiring an improvement in the printing business when I tell you that I receive letters regularly from good-sized printing offices thanking me for sending them sample copies of *The American Printer and Bookmaker*, and explaining that they do not subscribe because they cannot afford to pay the two dollars a year required. When a man makes an excuse that does not need to be made it is usually safe to believe him.

I hope, therefore, that you will be successful in showing printers how to make enough money to enable them to possess an occasional two dollar bill that they can consider all their own and to spend as they please.

C. S. MOREHOUSE.

I HAVE read carefully your advanced chapters in "How to Make Money in the Printing Business"—those on "Estimating," "Acquiring Money," "Price Cutting," and "Competitors." I thoroughly endorse all you have written. The rules you have formulated are very closely on the lines I have endeavored to follow in a business life of fifty years.

The printer who will always ask a fair price for his work, striving to do creditable work, giving an honest dollar's worth of service for each dollar received, must succeed. The customer who wishes prices cut for his benefit, should always be induced to pass on. If prices are cut for one man, they will be for another, and a *rat office* is the result. The printer who is dishonest to himself by giving away his time, and the time of his hands, and sells his stock for cost, will soon come to grief. He is on a down hill grade.

Your book must be a valuable aid to the young beginner—if he is a *reading man*, and is willing to try and learn from the experience of those longer in the trade, who have met success. One serious trouble with young printers—and for that matter, many older ones—is that *they will not read up*. They ignore the company of other printers. They will not join "The Typothetæ." They do not read its "Annual Reports." They do not read the trade journals. They do not care for such books as you and Mr. DeVinne and others have written for their instruction. They are selfish, and imagine every other printer must be selfish, hence they will not associate with them, not realizing they are the

only ones who must come to grief. Every successful, up-to-date master printer is the friend of every new beginner, and is glad to lend them a helping hand and a kind word of encouragement.

I am sure "The master printers who realize that there is a practical side to the printing art, and who desire to know the surest methods of making profits," will certainly welcome your coming book with joy.

CHAS. H. COCHRANE.

THE way to make money in the printing business is to collect considerably more for your work than it costs to turn it out. The reason why so many printers do not do this seems to me to be that they are deluded as to the cost of production. No man would buy coal at \$4 a ton, handle it at an expense of \$1, and sell it at \$5 and think that he was making money; but that is about the way a great deal of the production of printing is managed.

When every job printer can be brought to realize that the labor is only a small item of the total cost in doing a job printing business, and very frequently exceeded by the aggregate of miscellaneous small expenses on which he does not figure at all, there will be less doing of work at or below cost. Let every master printer remember that he has to make his own business and profits, and that if Hustle & Bust are chopping prices that is no reason why he should do a single job at a rate that does not yield a fair profit.

I think the job printing business a fairly good business for the man who is a business man, but it may be a very poor business for the man who is only a

good printer. Let the printer once definitely understand that he must become a business man, and that being a business man is as much of a trade as being a printer, and that it is more necessary to the making of a profit, and there will be fewer failures in the printing business.

There is nothing in figuring on competitive work if it is to go to the lowest bidder, since desirable jobs seldom do go to the lowest bidder, because those who give them out are afraid that the work will not be done satisfactorily. It is usually a medium figure by a good house that catches a large job on which a number have estimated. The naming of a good price on a job is almost sure to make the customer think that it will be well done, and he wants that house to do the job. Often he will simply take the figures of the lower bidders and go to the highest and use the figures to bear the price all he can, but at the same time with the intention of leaving the job with this high-priced (i. e. good) printer.

When we look among the master printers of our acquaintance and note that those who are doing the most business are also the ones who receive the highest prices for their work, we should profit by the lesson. The printer who once gets this thoroughly into his head has reached a broad stepping-stone on the upward path to success.

HENRY L. BULLEN.

MANAGER F. WESEL MANUFACTURING CO.

THE question "How to Operate a Printing Office Profitably?" will be asked so long as printing is called for, and will always remain unanswered except to

those who answer it for themselves. Success in printing business, and in other businesses, is an art that cannot be taught academically—it rests on capacity, courage and good judgment inherent in proprietor and manager. Find your man, success follows. Profits are obtained by a *knowledge* of cost; the *courage* which adds sufficient profit to cost, based on well defined rules and percentages; and *good judgment* in applying the rules and percentages. To satisfy the customer is the objective. The customer demands good value, and profit is as much a part of value as the actual cost of material and labor. The customer expects to pay the profit, but likes the profit-pill sugar-coated. He who has the art of sugar-coating that pill and at the same time keeps the pill big enough is on the road to success. How to do it? 'Tis a prescription unwritten—a gift of the Gods. Would that all printers were successful; but, if this be not granted, would that those who do not make profits could cease to ascribe their losses to the sins of their competitors. You can no more teach a printer to succeed in business than you can teach a salesman to sell successfully, or a lawyer to plead convincingly; nevertheless, as experience is necessary to the complete development of the three inherent business virtues of a business man, the educational propaganda is necessary and valuable, especially when it is so practical and convincing as in the pages of your book. Such public-spirited labors deserve applause, and the beneficial results are far reaching. Your efforts to uphold the dignity of our important industry, and to secure to the printer his just profits, have placed the whole fraternity under obligations to you.

NATHAN BILLSTEIN.

THE FRIEDENWALD COMPANY, BALTIMORE, MD.

My experience in the printing business, which began in the smallest way, has taught me that the most important thing for a man to do, if he intends to make money in it, is to adopt certain definite aims and methods of accomplishing them, then adhere to these absolutely; a periodical review of results should be made and methods should be modified and improved as the individual conditions and experience may require.

Looking backward, it is now perfectly plain to me that often my prices were made too low only because the real cost was not known, when adequate prices could have been had for the asking. On the other hand, my prices naturally were sometimes too high, and business was lost which would have been very profitable and which would have been the beginnings of trade which has since grown to proportions of magnitude in the hands of others.

Such success as I have achieved has been gained through the following things:

1. Doing good work and obtaining the confidence of my customers by the interest shown in the execution of their orders, and close attention to business.
2. Charging the same prices when estimates were not asked for as when they were.
3. Building up gradually a trade which gave me the bulk of my orders without competition.

4. Having my product carefully packed, so that it reached my customers in convenient form and in good order.

5. Avoiding "fillers" and cutting at the trade of other printers.

6. Placing myself in the way of getting orders for new work.

The fact that the business of printing is and must be largely confined to locality, and the fact that the concerns offering the lowest prices fail to monopolize the business, point conclusively to the truth that other things than the lowest prices secure the most and the best of the orders.

Our patron saint is credited with the saying "Take care of the pennies and the dollars will take care of themselves;" adapting the phrase I might say, *'take care of the profit on each job and the business will take care of itself.'*

JNO. W. CAMPSIE.

MANAGER PRINTING DEPARTMENT, EVENING WISCONSIN CO.

THIS is a subject that can only be handled intelligently by those who have realized this longed-for result in the conduct of their own business.

I am pleased to state that we have succeeded in obtaining very satisfactory returns in the way of profit, and believe that anyone can accomplish the same result if they will pursue the proper course.

First: See to it that you have the best machinery you can secure that is adapted to the class of work

you do, and do not have any more presses than you actually require to handle the work.

Second: Secure the best pressmen you can obtain, even if you have to pay them an advance price over the regular scale, and provide a well-lighted and conveniently arranged press room for them.

Third: Equip your composing-room with a carefully selected stock of type, borders, labor-saving rule, metal furniture, etc., but be careful to purchase the type in series—good, full cases to each sized letter, and don't get too large a variety of type. Rather get larger fonts of the faces that can be kept in constant use, and replace it when worn out with new. Don't get fonts that are so nearly similar that the customer doesn't know the difference. Have a sufficient number of chases and quoins and metal furniture so time will not be lost in unlocking forms.

Fourth: Keep a careful record of all work done in the various departments, and ascertain the exact cost of hand composition, presswork, linotype work, etc. Don't take anyone's word for it, but investigate for yourself. Remember that on every job you do there are many items of expense that enter into it aside from those that appear on the surface that must be included in an expense account to be added to the other costs. Find out what *your* expense is by taking all the items of "unproductive labor," for one year, such as foremen, superintendent, stockmen, proof readers, copy holders, etc., rent, fuel, light, insurance, interest on investment, depreciation, repairs, commission, telephones, telegrams, travelling expenses, etc., etc., and dividing it by the amount of the business done during the same period, this will represent a certain percentage (not less than

twenty-five) which is an *actual cost*, and must be added to costs before adding any profits.

Fifth: Never allow an estimate of any consequence to go out without proving it. Figure the paper both ways. That is, if you have 1,000 copies of a 128 page catalogue size 6 x 9, first figure that you can get 32 pages to the sheet, or four sheets to the catalogue, representing 4,000 sheets or eight reams. Then figure that each form will require 500 sheets work and turn, or eight forms, requiring 4,000 sheets or eight reams—thus proving that your paper is correct. When there are solid cut forms, allow for the amount of ink used, and don't be afraid to consult your pressmen as to the probable amount to be used, and see if their estimate is in keeping with your own.

Sixth: Take a personal interest in all work entrusted to your care and impress the customer with the fact that you are giving him your best efforts, and the benefit of your skill and experience. Make your work of a higher grade and possess more originality and character than your competitor's, and he will soon realize that your work creates business for him—brings about the results he sought to obtain. He will have confidence in you, and will be willing you should make a fair profit for your skill and ability.

Seventh: Meet all your obligations promptly. Have a certain date on which to pay all bills, and take advantage of discounts wherever possible. Keep your business office clean and attractive, and have samples of your work neatly framed and hung about the walls. See that clerks are courteous and efficient and are cleanly in their attire. Use tact and judgment in handling your customers and be fair and honest with

all your competitors, never allowing yourself to speak illy of them.

These are a few of the elements that will tend to make a success of the printing business, and give the employer a fair return on the money he has invested. But it also requires constant personal supervision, and everlasting vigilance to cut off all leakages.

SIGMUND ULLMAN.

SIGMUND ULLMAN CO., INK MAKERS.

"Water, water, everywhere and not a drop to drink."

PROSPERITY everywhere, but none for the printer. This is the complaint I have heard at every meeting of the N. Y. Typothetæ I have attended, and at the convention in New Haven. What can be done to improve the condition of the printing trade—is the question which has been argued for years. I have been requested by Mr. Paul Nathan, the author of this book, to render my opinion on the subject.

It appears to me that the printing business is poorest in the larger and largest cities of the United States, and many causes combine to make it so. One of the principal causes is the fact that the majority of printers are not business men. They do not realize that printing to-day, or at least 95 per cent. of it, is a manufacture, and not an art. To-day it is an art to manufacture the best printing at the lowest price. The manufacturer of to-day must in the first place have up-to-date machinery, and furthermore, must be an expert in the purchase of all materials he requires. He must be fully posted as to the market value of everything he buys.

Nine-tenths of all printers know only what they pay for their materials, but they do not know what they could be bought at. They leave this most important question in the hands of subordinates, it being simply a question of luck whether or not these trusted buyers are dishonest, ignorant or perhaps both.

In a great number of printing establishments not a pound of ink will be used, unless some one is paid for using it. When he is paid for using ink, he will gradually get paid for everything admitted into that establishment, from a web press down to the latest novelty. It is well-known that the laboring classes have always strenuously opposed all inventions tending to reduce cost of production. The inventor of the steam engine encountered the same opposition as did the inventor of the Linotype. When a buyer is paid for using a certain firm's goods he considers it his duty to keep out everybody else's. No printer can do a competing business to-day unless he has the ability to buy all his materials at the lowest prices at which they can be bought. The printers of the large cities are simply being robbed every day.

A large quantity of printing which was formerly done in large cities now goes to such printers in smaller cities where the proprietors have time to attend to their business. The printers in New York have not got time to attend to their business. They are always in a hurry. They will spend a half-day making an estimate for a customer for a twenty-dollar job, but when a salesman comes to see them, who could probably save them thousands of dollars per year and put them in a position to better compete, he will not be received.

One of the greatest bug-bears for a printer is the

estimate ; and it is so, because when an estimate is demanded the printer imagines that he has got to make the lowest price, and if he does he will get the job. If he makes a low estimate and does not get the job he thinks some one else gave a lower estimate, and the next chance he gets to estimate on that job he will estimate still lower. I think this is a great mistake. Most customers who ask for an estimate, ask for it because they have not the slightest idea what the job is worth, and want to find out ; and I furthermore think that the printer who gives the lowest estimate will not get the job, because it is too low, and the customer is afraid the job will not be properly done. In some cases the customer has a certain printer in view to whom he is going to give this job, and estimates of other printers are simply used to keep the favorite printer within certain limits, and he in most cases will get the job anyway, and probably at a much higher price than the lowest estimate. I would suggest that employing printers unite and agree to make a charge of \$5 or \$10 for giving an estimate. Why should a printer spend sometimes days of time and go to expense to establish the fact for some customer of some other printer that he is paying too much for his work. If it is not worth \$5 or \$10 to a customer to get an estimate he ought not to ask for it.

There may be some other causes working towards the entire ruin of the printing business of New York and other large cities, but the ones I have described strike me as being the principal ones.

CHAPTER XXIX.

THE RELATION OF PAPER-FEEDING MACHINES TO PROFIT IN THE PRESSROOM.

IN no branch of the printer's craft has there been greater advancement during recent years than in the pressroom. Not only has the quality of printing improved, but the speed and economy of production has made such strides that in 1900 it is actually less costly to do fine printing than it was to do common presswork in 1880. A number of causes have combined to produce this result. The tendency to build larger and heavier cylinder printing presses has steadily increased, as with each gain in size of machine the printer has found that he could produce presswork more economically, and with increased heaviness of machines and improved mechanical movements in the presses he has secured greater and greater speeds, until now it is not more difficult to drive a 44x65 cylinder press weighing a dozen tons at a speed of 1,500 to 2,000 impressions an hour, than it used to be to drive a pony cylinder of one and a half tons at that speed.

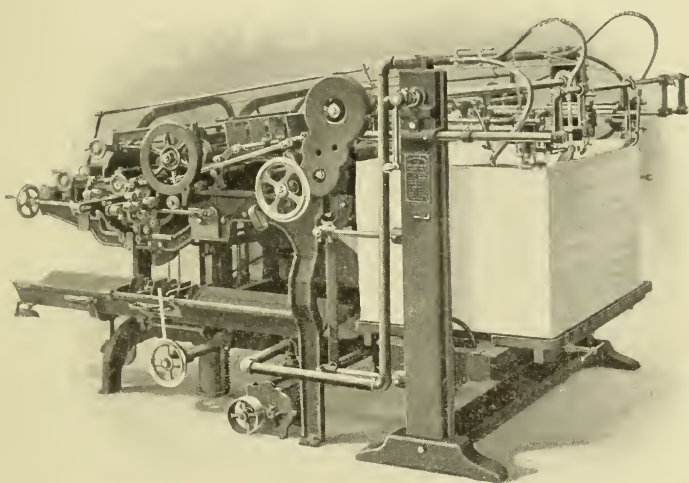
The press-builders, who made these things possible for the printer, went even further than present demands, for they built cylinders that would run faster than men could be found to feed them accurately. There are plenty of hand feeders who will tell you that they can feed sheets at from 1,500 to 2,000 an hour, but when they come to be tested it turns out that they require to have

a small sheet, and not too much care for register, also that they trip the impression frequently, and require stoppages for rest, so that there is no particular gain in belting the cylinders up to those speeds. On large sheets requiring good register, a thousand perfect sheets an hour is all that can be expected of good hand feeders, even though the presses are belted at 1,300 to 1,500 an hour; and the average product is certainly below rather than above the thousand mark. The ability of high-class two-revolution presses to maintain enduring speeds of 1,600 to 2,000 an hour in the larger sizes, and 2,000 to 3,000 in the smaller sizes, was the opportunity of the automatic paper-feeder.

The "ECONOMIC" paper-feeding machine, which had a long and successful record in supplying paper to ruling machines and folding machines, was tested on printing presses some years since, and found to be practical, despite the more difficult character of the paper handled. It was gradually developed and improved until its operation was so certain and automatic on all grades of paper that it came to be accepted by many of the larger printers of the country, who have added more and more feeding machines to their plants, until now it is a common sight to see large pressrooms where every cylinder press has its automatic feeder attached.

Feeding machines have been regarded by some as designed simply to save the time and labor of a man feeder. They do a great deal more than that; in fact that is only a small part of the economy which they produce. It has been demonstrated by progressive printers, who have put in a few "ECONOMIC" feeding machines as a test, that the increase in production for the presses is the greatest advantage, amounting to

much more than the saving of the hand feeder's wages. This increased production, combined with a saving of at least one hand feeder to every two presses, together



The "Economic" Automatic Paper-Feeding Machine attached to a
Modern Drop-Roller Folding Machine

Courtesy of E. C. Fuller & Co.

with other economies, such as avoiding spoilage of paper, make the machine one of the most profitable investments ever offered to the printer. In these days no printer having steady work for his cylinders can afford to continue to run them with hand labor, any more than he can continue to run his job presses by foot power. A very little calculation shows that the automatic feeder is simply indispensable to profit earning, and that the pressrooms which are the last to get into line with the new order of machinery are likely to drop into the sheriff's hands because of their lack of enterprise and foresight.

A comparison of the cost of operating two cylinder presses by the old and by the new method is very edifying in this connection. Suppose we have two 40x60 modern two-revolution cylinder presses: With hand feeding the cost of operating per week in a large city will be \$20 to \$22 for a pressman, and \$12 each for two feeders, and \$45 to \$55 for general expenses (which differ with conditions and the way printers calculate), but say a total of \$100 cost for the week's run on the two machines. A high average for the production from the machines will be 100,000 impressions, which the printer ought to sell for \$150, leaving a margin of \$50 profit on the week's work.

Let us assume that with "ECONOMIC" feeders the production is increased only 20 per cent., though there are printers who testify to much larger gains. This will give us a product of 120,000 impressions which will sell for \$180, a gain of \$30. But this is not all the gain, because the cost of operating has been less. Instead of the item of \$24 for hand feeders' wages, we have an item of \$10 for a helper, to which we must add \$5 for interest, (calculated at 10 per cent.) on the cost of the feeding machines. This shows a saving of \$9 in cost, or a total of \$91 instead of \$100 for the week's production. Putting the result in tabular form for easy understanding, we have—

Cost of operating two cylinders one week by	
hand feeding.....	\$100.00
The product of 100,000 impressions sells for.....	150.00
Profit by hand feeding.....	\$50.00
Cost of operating two cylinders one week by machine	
feeding.....	\$91.00
The product of 120,000 impressions sells for.....	180.00
Profit by machine feeding.....	\$89.00

Thus it appears that on only 20 per cent. increased production the profit is nearly doubled. If the increased product be 27 per cent. the profit is fully doubled. Think how much this means to the printer!

Another way of looking at it is this: There are 25 working days in a month. The printer who owns "ECONOMIC" feeders gains enough in speed to free his presses for five or six days in each month, say a gain of 70 days in the year, that he can sell, and yet have a less cost than before. At the very moderate price of \$12 a day for the product of a press this means \$840 more to be added to his annual receipts if he is clever enough to find the work for the unoccupied hours.

The saving of paper stock has not been figured in the above calculations. The feeding machine saves at least five-sixths to nine-tenths of the spoilage. It is not uncommon for the printer to handle papers worth \$4 to \$12 a ream, or to run \$75 to \$150 worth of paper through a cylinder in a day, and in such cases the saving on the spoilage becomes a large consideration. On color work the saving is enormous, as the register with automatic feeding is simply absolute, and the loss by spoiled sheets practically *nil*. Even on cheap stock the automatic feeder will commonly save enough paper to pay a large interest on the investment.

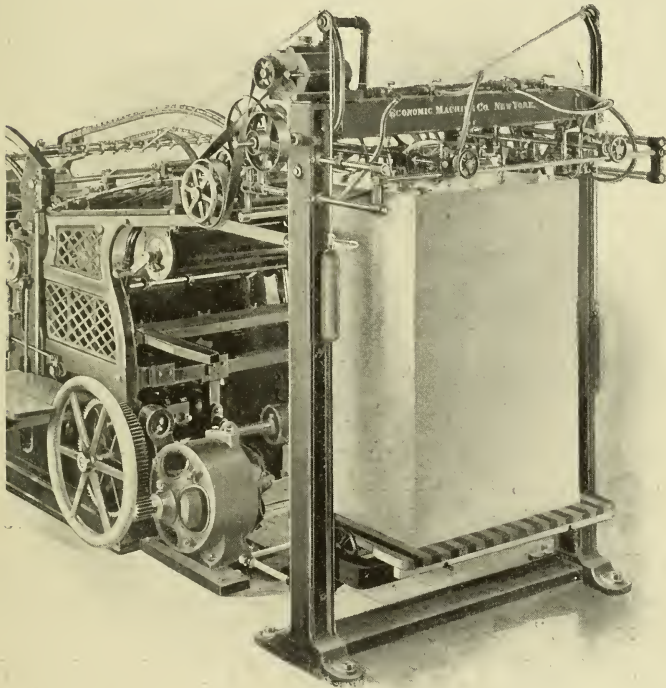
We have gone into this detail to show the printer that it is not the feeder's wages saved that makes the "ECONOMIC" paper-feeding machines so profitable, but that it is the increased capacity that gives the real profit. The press may or may not be run at a faster belt-speed with the automatic feeder, *but it runs continuously*, while the hand feeder is always stopping. With an automatic feeder, when you decide on the speed at which

you will belt the press you decide also very nearly its capacity. With hand feeding, when you run 1,700 an hour, you get only 1,200 or 1,300 perfect sheets an hour. With the automatic feeder you get the benefit of the 1,700 an hour speed.

There are minor items of economy in the use of the automatic feeding machines. The press does not run idly to tripped impressions, nor is it stopped and started nearly so often, so that the wear and tear on the machine, and the charges for repairs, composition rollers, and for oil, etc., are all reduced quantities. These are small things, but they are mentioned here to show that the conditions are all in favor of the automatic feeder as opposed to hand feeding.

Another way of calculating the profit to be gained by the use of the "ECONOMIC" automatic feeding machines is this: A plant of six large two-revolution cylinders equipped with automatic feeders has the same producing capacity as an eight-cylinder plant without the feeders, and the saving in help with the former is one pressman and five helpers or feeders, which at New York city rates means \$80 a week economy in wages. Add to this another \$80 for saving of stock, floor space, power and minor expenses, and you have a clear saving of \$8,000 a year on the plant of six presses with automatic feeders, as opposed to the eight-machine hand fed plant, both plants being of the same capacity, and supposed to run with full work. There is a further advantage in the six-machine automatic feeding plant, in that if a rush of orders involves night labor at a price and a half, this price and a half has to be paid to only three pressmen and three helpers, instead of four pressmen and eight helpers, thus enabling the management to do night work

profitably, something that seldom can be done under the old conditions. The machines not only do not charge any price and a half, but actually cost much less at night,



“Economic” Automatic Feeding Machine attached to Stop-Cylinder Press with Front Delivery

Courtesy of E. C. Fuller & Co.

as there are no extra charges of floor space, insurance, etc., to figure against them.

The superintendent of a large establishment using the “ECONOMIC” paper-feeding machines figures the savings in this way: “Under the old system my cost was \$10 per day per cylinder press, take them big and little as they ran through the plant. With the new system my

cost is \$9 per day per press. Under the old system my presses used to earn \$11 a day, or \$25 a month of profit. Under the new system I find my presses produce so much more that they earn \$14 a day, or \$125 a month of profit each. The old system yielded 9 per cent. profit on the work done, and 15 per cent. on the capital invested. With the automatic feeders, and plenty of work for nine months in the year, I make 35 per cent. on the work done, and am making 50 to 60 per cent. on the capital, and I can keep this up until my competitors all put in feeding machines, when I suppose competition will lower the rate."

This illustrates the great saving in profits possible with automatic feeders. When the production is increased 30 per cent. the profits increase in a much greater ratio. If present work yield 10 per cent. profit on the capital, an increased production of 10 per cent. means doubling the profit, or \$2,000 of profit where before there was but \$1,000. This is the secret of the tremendous growth of the plants that employ the "ECONOMIC" feeding machines.

Turning from the financial to the practical side of the paper-feeding problem we find many interesting advantages in their use. Take the loading of the paper, which may be unpacked in the stock room right on to trucks, and piled up six feet high or more, often 20,000 sheets at a time. The trucks may then be run directly into the feeding machine, and stay there until the last sheet is fed, thus avoiding all rehandling of the paper stock. The machines will feed anything, from the flimsiest of cheap news, or the thin book paper known as Bible paper, to cardboard, and with equal facility. They will supply paper to cylinder presses at

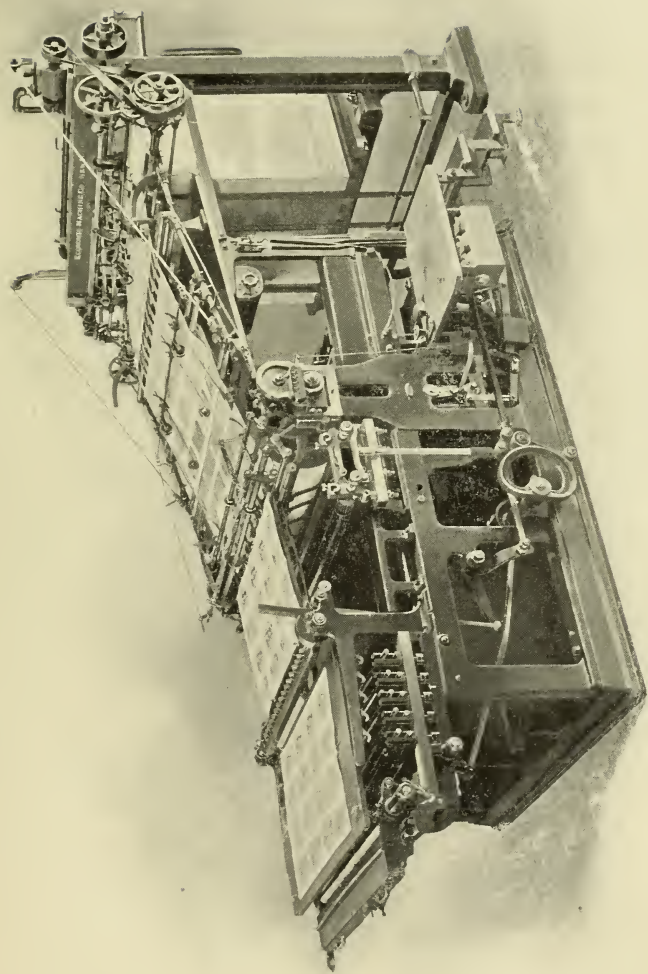
any speed up to 4,000 an hour, and on disk ruling machines have been run at double and triple that speed. They permit the press to be run at its highest durable speed, which is almost always more than the hand feeder can maintain. The mechanism is such that the register is absolute and unvarying. The sheet of paper is brought down gently against the front guides by the propelling of tapes, and end register is obtained by an end gripper, that takes the paper anywhere within two inches, and brings it to the exact point desired. As each sheet is handled in precisely the same way under the same conditions, each lies against the guides with the same pressure, and thus absolute register is secured.

There is a serious waste in hand feeding of book and magazine sheets that later go to the folding machines, owing to the fact that the hand feeder fails to register all his sheets correctly in going through the press, and when they come to be fed to the modern rapid drop-roller folders, which use the same margins of the sheet as were used on the press for registry, the inaccuracy of the first feeding puts the pages out of centre at the folder, though the folder be accurately fed. As most folding machines are now constructed to handle two or four signatures at once, the result of an error in feeding at the press spoils a full sheet of two or four signatures at the folder. This form of spoilage or loss is particularly noticeable where perfecting presses are used, for on these the sheet always backs, whether correctly fed or otherwise; consequently the hand feeder knowing that the pressman cannot readily tell whether his sheets are accurately or inaccurately fed, naturally grows careless, and so allows a much larger number of sheets to go in slightly out of register, thinking that

nobody will ever notice them, or, if they do, that the errors will not be brought home to him. The sheets then go to the bindery, where the errors in feeding at the press result in irregular margins, which are very liable to get into the books or magazines, and be discovered at a later date, causing the return of the books to the printer, to have the signatures torn out and replaced, with no end of nuisance and expense.

All this sort of difficulty is avoided by the use of the "ECONOMIC" feeding machines on both presses and folders. They can be relied upon to deliver the sheets accurately any time and all the time, and as the sheets come from the press all alike there is no loss or wastage discovered at the folder, or worse yet, after the sheets are bound up and perhaps delivered to the customer. In color work, where there are say ten or twelve impressions on one sheet, as often occurs in lithographic printing, there is sure to be a delivery of all-perfect sheets to the customer, when "ECONOMIC" feeding machines are used, instead of a very large percentage of slightly-out-of-register sheets, which is usual where the work is hand fed, because the printer cannot afford to throw them away. When it comes to feeding a thousand sheets through a press twelve times by hand, the spoilage becomes a tremendous item, as the percentage of inaccuracy is multiplied by twelve. The register of the "ECONOMIC" feeders being absolute, there is no spoilage worth mentioning.

A little reflection will show the mechanical reasons why the automatic feeder so certainly increases the product over hand feeding. The man feeder has to stop once in so many hundred sheets to put up a new lift of paper, and roll or comb it out. This involves a



"Economic" Automatic Paper-Feeding Machine attached to a Two-Revolution Front Delivery Cylinder Press
Courtesy of E. C. Fuller & Co.

loss every time of certainly seventy-five to one hundred impressions. Then he must spoil the top and bottom sheet of each lift by smutting in handling, and in printing on both sides that usually means four sheets to the lift. The average feeder requires to stop at least once on a lift, either to comb out his paper a little more or to turn down some corners, and if the press is making good speed he will trip the impression or stop two or three times from other minor causes. Then he will deliberately quit to get a drink of water, or to talk to somebody, or for any one of a score of other things that come up many times in the course of a day. In hand feeding there is yet a farther loss because of the breaking in of new feeders occasionally, or the using of substitute feeders who are not as expert as the regular hands. The automatic machine feeder overcomes every one of these drawbacks. It starts in at the best speed at which the press is capable, and keeps up the work hour after hour, never tiring, never faltering. If the paper is torn or faulty it automatically stops the press and trips the impression, so that no damage results, and there is no more loss of time than there would be if a hand feeder was manipulating paper not in condition to be fed to the press—in fact, not so much, for the hand feeder sometimes gets confused when his paper goes wrong, and lets the press take an impression on the tympan, whereas the automatic feeder trips the impression and puts on the brake with certainty, so that there is no such thing as offsetting on the tympan by reason of skipped sheets.

The great stack of paper that can be piled on the "ECONOMIC" automatic feeder at one time not only saves the putting up of lifts as detailed, but renders it

easy to keep the press moving during the entire nine working hours, as the stockman can be employed to load up the trucks over night so that the stock is there ready to be operated upon the instant the whistle blows for starting up the power. The paper is fed from the top of the pile, and although the pile may be six or seven feet high and very heavy, yet it is raised automatically and fed upwards so that the top sheet is always at the correct level.

Electricity does not interfere with the correct movements of the paper in the "ECONOMIC" feeding machines because the sheets are not combed out (a process that tends to gather electricity) but raised one by one from the pile and moved on the air. The method is largely that of the hand feeder, except that the labor of combing out the paper is saved, and the sheet is lifted at the two rear corners instead of the two end corners. The hand feeder draws the sheets back to get the air under them, and the automatic feeder lifts the corners and blows the air under.

A record of 37,000 sheets run without a stop or hitch has been made by the "ECONOMIC" automatic paper-feeding machine. This continuous smooth running is obtained by a perfection of safety devices that counteract the tendency to irregularity of action arising from the uncertain condition of a pile of unprinted paper. These feeders operate without any error or uncertainty as long as the paper is in proper condition, and when the paper is wrong for any reason the machine is automatically stopped so that the attendant can make the paper right. If two sheets are so glued together that one pulls the other to the guides of the press, a little electrical detector discovers the added sheet, and throws mechanism into

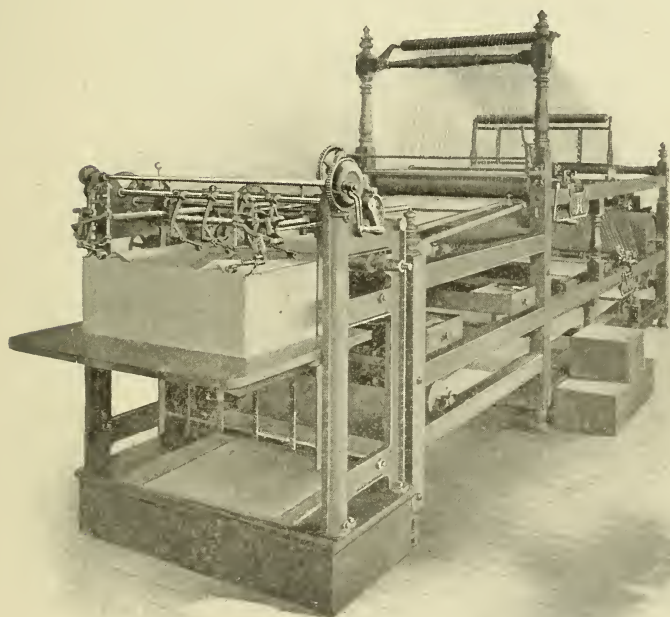
operation to move the belt-shifter and put on the brake. The same thing occurs when a corner is turned down, or when a sheet is so torn or mussed that it could not go through the press without danger of getting on the rollers. There is no missing of sheets to offset the tympan.

It is an inspiring sight to one not familiar with automatic feeders to go through a large pressroom so equipped. The first thing that strikes one is the large number of machines that are running, and the small number of men about. The force in the pressroom is cut in two, and even then the men have little to do. To see a great two-revolution, or a perfecter, running steadily along at high speed, and nobody paying any attention to it, nobody near, is at first a shock to the printer-visitor, who thinks that surely something must go wrong with the combination; but after a while wonder gives place to familiarity with the situation, and he says to himself: "Well, that is great! Why don't we have them in our place? Certainly it doesn't cost much to do printing when the machines run themselves."

Owing to simplicity of adjustments and to absence of suction devices the "ECONOMIC" feeding machines are adapted to all classes and grades of paper used in printing. Various inventors have tried to perfect machines to feed paper by lifting the top sheet by suction. There is always uncertainty whether the suction will lift one or two sheets, and when the weight or quality of paper is changed the suction also has to be adjusted to a nicety at great loss of time, before it is approximately right for the changed paper. As a result those experienced with this class of machinery have given up suction as impractical, and it has been entirely ex-

cluded from the mechanism of the "ECONOMIC" feeding machines.

There is no grade of paper so difficult to feed that it cannot be handled better and cheaper by these ma-



"Economic" Automatic Feeding Machine as applied to a Ruling Machine

Courtesy of E. C. Fuller & Co.

chines than with hand feeding. The changes from one size of paper to another involve only the shifting of the buckling devices and blowers, which is about the same work as shifting the tapes on a tape-delivery press. When the automatic feeders were first brought into use it was supposed that they were fitted only for rather long runs, but in practice it is found that

users apply them for all runs of half a thousand or more. In other words the saving of time and paper in running five hundred impressions is enough to make it worth while to adjust the automatic feeder for use. If there is a run of only a hundred or so, and it is desired to dispense with the automatic feeder for that job, it in no way interferes with the putting up of a lift and supplying the sheets by hand.

The firms using the "ECONOMIC" automatic feeding machines have been liberal in publishing praises of their merits. Very many of them express surprise after installing the machines at the increase in their product, which is more than they expected. It is noteworthy that those who order one or two feeders almost invariably order more within a few years, either because they desire to increase the output and economy of their remaining cylinder presses, or because their business has grown, and demands more presses with automatic feeding machines.

It is of interest in this connection to note just what purchasers and users of the "ECONOMIC" feeding machines say about them. *The Ladies' Home Journal* is fed by them, and the owners, The Curtis Publishing Co., in a letter to E. C. Fuller & Co., say :

"You know how we feel toward your machinery, as is evidenced by our recent order for feeders."

This order was for an additional eighteen machines.

The Baker-Vawter Co., of Chicago, say :

"The register of the work is very much better than hand fed work; in fact, in this particular there is no comparison. On the point of production, we find that the proportion is about seven to five; or, in other words, if a hand fed press produces 50,000 impressions in a week, a machine fed press

on the same class of work will produce 70,000 impressions in a week. We do not see how we could get along without them, either for our presses or for our ruling machines."

On July 1, 1897, Ginn & Co., of Boston, wrote :

"We have eight of our printing presses equipped with the 'ECONOMIC' paper-feeding machines, and it affords us pleasure to testify to the merit of the machines. We regard them as a complete success, both on our printing presses and folding machines. We have found them satisfactory in every way and a great improvement over hand feeding. By their use we get a large increase in production, better register, and a saving in labor and the wastage of sheets."

Since writing this Messrs. Ginn & Co. have installed or placed orders for a total of thirty-one "ECONOMIC" machines.

The well-known Indianapolis printer, William B. Burford, writes as to his first experience with one of the machines:

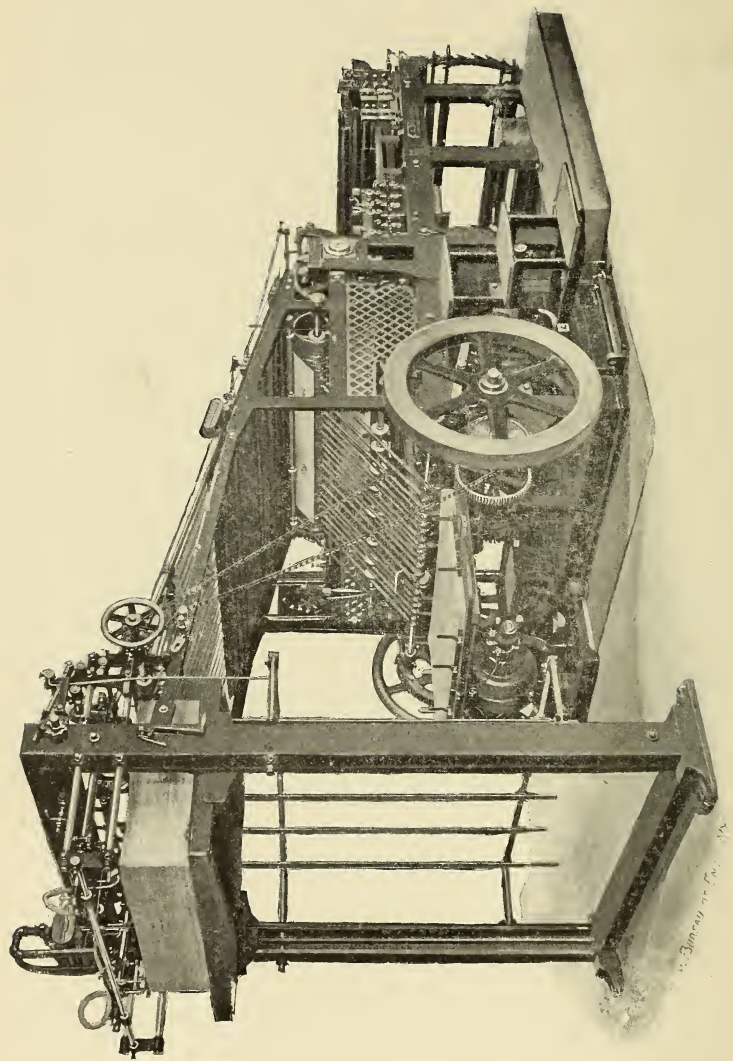
"We have had little or no trouble since starting it, and are getting fully twenty-five per cent. more product by the press than we had at hand feeding, besides getting better feeding and quite a saving in waste in paper."

At a later date, he writes :

"We now have four of your 'ECONOMIC' feeders in our establishment, some of which have been running about seven years, on folding machines, ruling machines and printing presses. The last one you put on our Miehle Pony has worked without interruption for more than a year, and we regard it as one of the most economical investments that we have made. We ran 100,000 1-8 sheet, 25x38 dodgers on this press a short time ago in seven hours, working five at a time, with an average speed of 3,000 per hour, and made three changes in the form within that time. We consider the feeder a money-maker. We shall put one of these feeders on our next fifty-six inch press that we add to our plant."

Perry, Mason & Co., of the *Youth's Companion*, Boston, were among the early users of the "ECONOMIC" feeders for folding machines, and say :

"The saving made by their use is very great, and we should not know what to do without them."



"Economic" Automatic Feeder attached to Stop-Cylinder Rear Delivery Press

Courtesy of E. C. Fuller & Co.

The S. S. McClure Co., wrote in September, 1897:

“We have the ‘ECONOMIC’ feeding machines on both folders and presses and think them the best on the market as to register, speed, and ease of operation.”

Since that time the McClure plant has added thirteen more feeding machines, operating all its cylinder presses in this way.

The firm of Berwick & Smith, operating the large plant at Norwood, Mass., wrote this when they began to use the “ECONOMIC” feeders:

“The two automatic paper-feeding machines attached to two of our presses have been running continuously now for over a month. They have given perfect satisfaction in every particular.”

The truth of the last remark is evidenced by the receipt of orders for seven more feeders since the first installment.

The Thos. Knapp Printing & Binding Co., wrote in 1897:

“We found this machine of very great service to us during the late presidential campaign, as we were able to out-class any of our competitors on daily production of the literature at that time being put out by the Republican Committee, this one machine producing for us over 100,000 sixteen-page pamphlets per day. This work was on light, cheap paper, size 38x50, and the product of this particular folding machine, if fed by hand with this large, flimsy sheet, we calculated would not have been over two-thirds of the amount, perhaps less. This is only one instance of what the feeding machine will do when you have work for it.”

Newspaper offices find them useful, too. W. T. Baker, publisher of the *Utica Saturday Globe*, writes concerning a machine used by them on a rapid drop-roller folder:

“The ‘ECONOMIC’ paper-feeding machine which we have had in our office for more than a year, feeding seventy-five sheets to the minute, has given the best of satisfaction, and is the wonder of all who have seen it.”

The Boorum & Pease Co., of New York, write thus to Messrs. Fuller & Co.:

"We now have nine of your feeders in use and find that they do all that you claim for them."

And so say scores and hundreds of others.

The popularity of the feeding machine is evidenced by the increase of the plants of the Economic Machine Company, the manufacturers. Messrs. E. C. Fuller & Co., the selling agents, state that the shops in Hartford, Brooklyn and New York, have all been enlarged several times, and that during 1899 their capacity was increased six fold to meet the tremendous demand, arising from the fact that the printers of the country have been awakened to the enormous advantages arising from the use of these machines.

While the descriptions herein of feeding machines have been confined principally to their use on cylinder presses, let none suppose that there is any such limit to their employment. Folding machines have simply doubled and trebled in value and usefulness since the automatic feeder was applied to them.

The "ECONOMIC" machines have been for years in successful use on drop-roller folding machines, and are so employed in nearly all the large book binderies as well as the magazine and periodical binderies in the United States. On this class of work there is an even greater increase of speed than there is on printing presses, because the folders are capable of more rapid operation. From 30 to 50 per cent. is the usual calculation of the increased output resulting on folders from the attachment of the automatic feeders. This attachment is accomplished entirely without mutilation of the folding machine, and although the feeding mechanism is

not as capacious as that usually connected with printing presses, yet they will accommodate from 5,000 to 15,000 sheets of paper at one time. There is a slight gain in floor space, as the feeding machine takes up less room than the hand feed table.

The most remarkable speeds that have been attained with the "ECONOMIC" feeders have been on disk ruling machines. Only with the automatic feeders has it been possible to obtain the full capacity of modern ruling machines. Accurate work is done on them not uncommonly at as great a speed as 8,000 an hour, and in one instance a speed record was made of over 12,000 in an hour, just to see what could be accomplished. Even at this speed there was no loss of register, or requirement for frequent stoppages, though it is faster than the machines were designed to run. The feeding machine is readily attached to striker or feint line ruling machines, either pen or disk, single, double or quadruple, and the operation is so simple as not to require attention from the ruling machine attendant after the paper is placed upon the piling board. The adjustment is so very easy that it is economical to use the automatic feed for runs of only a hundred or two sheets. From ten to twelve thousand sheets can be placed upon the feeder at one time when operating with a ruling machine.

On calendering machines also, and several special machines the "ECONOMIC" automatic feeder has been used with marked success.

Not the least of the advantages to be derived from automatic feeding machines is the comparative immunity from the strike nuisance that they insure. Hand feeders in the large cities have shown a deplorable tendency

to go on strike for more wages where they find an office filled with rush work. The helpers and pressmen never strike in offices where the automatic feeders are used, for several reasons. In the first place, they recognize that they have light work and soft jobs, which they want to keep; in the second place, so few men are required to run a large pressroom so equipped that the men see readily how easy it would be for the employer to fill their places, and that they have not the strength of numbers that strikers have in a hand feeding pressroom; in the third place, the saving is so large that it is practical to use well-paid pressmen, who are placed more for the responsibility than for the actual work that they perform, and who are naturally too well satisfied with their places to make any trouble; in the fourth place, the helpers do not require any special training as do feeders. They have very little to do beyond handling rollers and occasionally starting the machine. In short, with automatic feeders the principal work of the pressroom is done by the machines and not by the men, and machines happily do not go on strike.

There can no longer be any question as to the preferability of the automatic machine for feeding, under any and all conditions, and for all classes of work. Those firms that use them first naturally will make the most money, while those that wait until the loss of their work compels them to put in the machines to meet the competition, will get the small end of the profit in the universal change just inaugurating in the pressrooms and binderies of the world.

Incidentally it may be of interest to remark that the "ECONOMIC" automatic feeding machines were produced

and developed by an expenditure of some \$150,000 in money, and a measureless amount of patience and brain matter; that they were built by high-class mechanics under the latest methods, with jigs and special tools, so that all parts are perfectly duplicated, making repairs easy and inexpensive, no expert work being essential to the fitting or attaching of a new part.

E. C. Fuller & Co., of 28 Reade Street, New York, through whose courtesy the illustrations to this article have been obtained, are entitled to the major portion of the credit for having brought the paper-feeding machine to its present standard of usefulness to the printer, and for having afforded the opportunity to make a profit in many a pressroom that before failed to show a satisfactory balance on the right side of the ledger

CHAPTER XXX.

TIMELY HINTS.

THE experience of the gentlemen whose contributions follow are well worthy of careful reading by every printer. They are men who have studied the business end of the printing business from various points of view, and who have gleaned much knowledge as to why many printing offices fail to pay a profit. Each has his own characteristic way of making his points, and each has some new thought worthy of attention and serious consideration, though the consensus of opinion tends all in the one direction—that practical common sense methods are essential to profit earning.

J. CLIFF DANDO,

PHILADELPHIA, PA.

AIM to do the best work. Be accommodating. Promptness—as a policy.

Do not expect to get every order in sight.

Mind your own business—not a competitor's.

Study and determine your own cost—accurately—add a profit and quote your price fearlessly.

Depend upon “friends” to tell you when it is necessary to “cut”—“sharks” will tell you lies.

If you are positive as to cost, it will enable you to detect both the friend and the liar—or, that your competitor is a fool.

With this as a “backer,” work out your own salvation and with ordinary horse sense in management the result should be—a profit—even though it is a scarce article.

If you are not positive as to your cost—quit!

F. L. MONTAGUE,

NEW YORK CITY.

THE title of your book, “How to Make Money in the Printing Business,” has set many minds to work to best answer the problem, and all undoubtedly with the desire to open some “royal road” to accomplish the desirable object of bringing the printing business into line with other manufacturing, and on as profitable a basis.

There is no "royal road" to the accomplishment of your problem, but it all resolves itself down to increasing the price for work or reducing the cost of producing, or both.

In this machinery age, when great advancement is being made in labor-saving devices and the cost of work reduced, it is difficult, if not impossible, to increase the prices; but the profits can be increased by increasing the product without increasing fixed charges and expenses.

To my mind, therefore, the printer should pay more attention to increasing product, which in ninety-nine offices out of one hundred can be done without increasing any expenses.

In other words—"Modern Machinery"—is my best answer.

Some printers declare they cannot stand over their pressmen with a gun to get the greatest product from their presses every day, but so far as the absolute work in the printing office is concerned there is nothing so important.

With wages fixed, rent not lessening, non-producing expenses of workmen, foremen, book-keepers demanding an increase in their salaries, insurance and other incidental expenses continuing and increasing, the science of the printing trade is to get an increased product for these fixed expenses.

The printer can no longer afford to pay rent and labor on an Adams press, for example; neither can he afford to pay labor and rent and cost of maintenance on any obsolete press capable of producing only 6,000 to 7,500 sheets per day, when his competitors turn out from 10,000 to 12,000 per day with no more expense on more modern machines.

This extra amount of sheets printed, whatever the price received for it, represents a clear extra profit, and on large presses, work commanding \$2.00 per thousand will net an average of from \$5.00 to \$6.00 per day extra profit, barring alone the extra cost of ink. Multiplied by three hundred working days, it makes a possible extra profit of from \$1,500 to \$1,800 per year; and multiplying this again by the number of presses employed will make a very large extra profit for the year.

To further increase the product, the use of individual electric motors will certainly add an average of five per cent. This is done by the greater number of speeds which can be given the press, making the variation of not more than fifty per hour, ranging all the way from 800 to 2,000 or more per hour, so that the press can be run at a maximum speed, depending entirely upon the class of work done.

With the use of cone pulleys the variation is too great, and many jobs are printed running at the rate of three hundred per hour less than what the job would stand, and yet they cannot run at a higher speed, as the next step on the cone pulleys would increase the speed beyond what the job would permit; and the greatest usefulness therefore of electric motors attached individually to presses is by means of the numerous and variable speeds obtained to secure to the printer the maximum amount of product.

To still further increase the product of the press comes automatic feeding machines. Presses have been made to stand an increased speed, until they have a capacity for product which surpasses the ability or the *willingness* of the feeders.

Some printers can get an additional amount out of their presses or out of their feeders by establishing a day's run as a *quid pro quo* at 10,000, and all over that run to earn a premium for the feeder.

The feeding machine has the advantage of feeding as many sheets the last hour of the day as at the first hour, and the increased product, by means of the feeder running steadily, is 15 to 25 per cent.

Therefore, to summarize as follows:

The use of modern presses increasing the product over old presses.....	20 per cent.
The use of automatic feeding machines on modern presses increasing the product	20 “
The use of electric motors increasing product estimated.....	5 “
Making a total, by the use of modern appliances of.....	45 per cent.

Let any printer ascertain his product and let him figure what an increased product of 45 per cent. would mean, and there would be no need of his making an effort to increase prices provided he could get work at prevailing rates.

Now this increase in product of 45 per cent. is accomplished without adding a dollar to expense account and is therefore a clear increase in profits.

Take for example an old press and old appliances : a fair run on a large sheet would be 7,500 per day; at \$2.00 per thousand, would equal.....	\$15.00
Less for labor, rent, non-producing expenses, etc.	10.00
Leaving a net profit per day of.....	<u>\$5.00</u>
Take an increased product of 45 per cent. or, say, 12,000 at \$2.00, would equal.....	\$24.00
Less labor, rent, etc., the same	10.00
Net profits per day.....	<u><u>\$12.00</u></u>
Increase in profits more than double.	

Continue this extra profit of \$7.00 per day into three hundred working days on every large press, and there is a possible gain of..... \$2,100.00

Therefore, the modern press, properly equipped, is capable of earning in three hundred working days (\$12 per day)..... \$3,600.00

Subject to a discount of one-third when press is not running..... \$1,200.00

Interest on investment, wear and tear, etc. 400.00 1,600.00

Making net profits on each modern press..... \$2,000.00

On old machine, profit per day, \$5.00 equals per year..... \$1,500.00

Less one-third, press standing..... \$500.00

Interest on investment, wear and tear, etc. 250.00 750.00

Net profits..... \$750.00

Or, about one-third of what the modern equipped plant will earn.

Multiply this by the number of cylinder presses in the office and you have my solution to your problem.

At all events, how can the printer ignore modern machinery and modern appliances and continue on with the old obsolete tools and at the same time wonder why he cannot make his business pay?

HENRY A. WISE WOOD

GENERAL MANAGER CAMPBELL PRINTING PRESS & MFG. CO.

"Typographitis" — The Cause of its Spread and a Remedy.

IN my opinion established printers have more to fear from competitors who are subsidized by the manufacturing concerns from whom they purchase machinery and supplies than from any other single source. They are forced to compete with weak and struggling printers

who are maintained with the very money which they have paid for their machinery and material.

When a printer pays his supply house in cash, both he and his supply house are doing business on a healthy, and the only healthy, basis; when the supply house uses the cash so received to furnish another printer with materials on the credit system it breeds an unnatural competitor for the cash paying printer out of the actual cash which he has paid. Here we have the *very germ* upon which the disease of "Typographitis" feeds—the *credit system*.

"Typographitis" is the term I use to designate the mania, which is possessed by every journeyman-printer, to run a print shop; and the machinery and supply men, those willing angels who take any and all risks to start an office, mix the dope that swells the journeyman into the "employing printer," and thus are the unfit established and kept on their feet by their backers, the machinery and supply men, to compete with those printing concerns who pay cash for their wants and must therefore work at a margin of profit sufficient to enable them to meet their bills promptly.

The poison of the credit system has so completely permeated the printing business that it has become one of the ragged-edge industries—an industry in which invested capital has no sufficient protection, reputation, no value reducible to dollars and cents, and in which the element of permanence is very slight. And so long as the credit system continues, so long will every established printing house suffer from the disastrous competition of the adventurer, the amateur, and the journeyman, all of whom now get into the business, and for the most part stay there, with the encouragement and support of

strong machinery and supply houses who are seeking to extend their own business thereby, forgetful of the fact that in so doing though its volume may increase, yet the proportionate profit of their business will grow smaller with the advent of each new concern.

If I were an established printer and paid cash for my wants and had a particularly ugly competitor—one who seemed always able to underbid and outconcession me—I wouldn't quarrel with him, not a bit of it; I should put my finger on his press builder and his supply man and they would soon grow to see the folly of loaning my good money to my competitor in the shape of plant, supplies, etc.

I am aware that many good concerns who came into the business in the manner described are now established and therefore beyond the need for a paternal press builder, but I am warranted in saying, that for every concern so starting that has become a credit to the industry there have been countless others who lived for a little, or continue now to hang on, with no benefit to themselves and yet at a tremendous cost to those who had and have to withstand a competition from them of the deadliest character.

Where, in this struggle to survive, the unfit printer secures one job he ruins the price of many others upon which he has bid, and so the business of many printers about him who are not in his desperate straits may be poisoned by his mere existence. Such a case cannot be treated directly, for no arguments brought to bear upon a man so situated will serve to alter the conditions which surround him. But to go to the root of the matter, his backers must be found, and where possible, made to feel their responsibility in the premises.

I sum up then with this: the disease of printerdom is "Typographitis;" the agents which promote its spread are press builders and all supply men; the remedy is to watch the agents of infection and hold them directly responsible for the existence of every unfit competitor—then will there be no further need for a Paul Nathan to lead printers out of the wilderness.

THE AMERICAN PRINTER

A MONTHLY MAGAZINE PUBLISHED AT 150 NASSAU STREET, NEW YORK,
BY J. CLYDE OSWALD.

THE *American Bookmaker* (the name under which THE AMERICAN PRINTER was originally published) was founded in 1885, by Howard Lockwood, and for many years was conducted in the interests of the book-making, printing and binding trades. When Mr. Lockwood died in 1892, the ownership remained with Howard Lockwood & Co. In February, 1897, J. Clyde Oswald assumed the editorship, and the name was changed to the *Printer and Bookmaker*. At the same time the character of the publication was broadened, the illustrative features developed, and new writers added to the staff of contributors. The interests of the printer, and especially of the employing printer, were studied and discussed, and soon became the main theme of the publication. In the meantime the ownership had passed to the Printer and Bookmaker Co., and in 1899, Mr. Oswald secured a controlling interest, and now issues THE AMERICAN PRINTER as editor and publisher.

During the period from 1897 to 1900, there was a steady development, both in quantity and quality of

matter printed; the publication has doubled in thickness, quadrupled in illustrative features, and is an admirable example of the highest excellence in the arts of the printer, illustrator and engraver. It has become the recognized medium for exchange of intelligence between the master printers of America, and in every issue there may be found from one to half a dozen contributions from printers and publishers of eminence in the trade, evincing the interest they take in this method of communicating with the craft. Its pages have come to be recognized as reflecting the true sentiments and issues among the men who make the printing trade what it is. DeVinne, Little, Morehouse, Hudson, Matthews, Lee, Nathan, Blanchard and many others of equal prominence, who write for the elevation of the printers' art and the prosperity of the trade, are to be found among the contributors.

The departments include "Note and Comment," which is virtually editorial criticism of passing events. Here are discussed existing issues and problems that confront the printer in his vocation. The utterances are frank and outspoken, seeking to give the truth as the editor sees it, unhampered by narrow considerations.

The "Estimating Department" is unique in that it seeks to educate the printer to figure up and not to figure down, as has been the general tendency of discussions on estimating. It is an effort to assist the printer to the making of better and more profitable prices, to demonstrate how much work really costs, and the folly of price cutting.

"Publicity for Printers" deals with the advertising side of the printery. It has become recognized that the business of a printing office can be developed enor-

mously by clever methods of advertising, and an exchange of thought on this subject is vigorously maintained. The department is intended for the use of the printer who advertises and wants to know how to make it pay more, and for the printer who does not know how, but who would advertise if he did know how.

A considerable amount of space is also devoted to the interests of the photo-engraver, electrotyper, book-binder and trades allied to printing, and the employers in these callings mostly subscribe for and read THE AMERICAN PRINTER.

The news of the trade for the current month is always summarized or given in such detail as its importance warrants. The advertising pages contain announcements by all the leading manufacturers of printers' machinery and appliances, and of goods generally sold to allied trades.

The subscription price of THE AMERICAN PRINTER is \$2 a year; on sale wherever printers' literature is sold, or it may be had of type-founders and supply houses generally.

ADVANCE IN TYPESETTING MACHINERY.

A PRACTICAL justifying typesetting machine is the "long felt want" of every composing-room. The day for hand composition has gone by; the three-man typesetting machine has proved too costly in comparison with a one-operator machine for producing line-slugs; while the line slug machine has proved unsatisfactory for a fine grade of work. The machine needed to fill the gap is a typesetting machine proper, with such automatic justification that it can be run at a high speed by one man.

The Empire Typesetter has been recognized for many years as the best machine for setting and distributing foundry type, as it has given all the keyboard speed that the operator could finger, and provided automatic distribution that did not break the type. The machine had but one fault—a second operator was required to do the justification by hand. This fault has been entirely overcome in the one-man justifying machine which The Empire Machine Corporation is now offering the printer. It is provided with a justifier that is simple and compact, and that performs the whole operation of automatically spacing out the line to measure. The work is done directly in front of the operator, where it is under his supervision at all stages, so that every chance of error or accident is eliminated. The spaces used are solid or non-springing, so that the

composed matter is in every respect the same as hand-composed type matter, and may be corrected, electro-typed or stereotyped exactly the same as hand-set type. For these reasons the system of justification is superior to other systems now being exploited, as each and all of them present some objection or drawback or impose some new condition involving difficulty for the printer.

The Empire justifying typesetting machine with justifying attachment will produce more ems per hour of high class, perfect composition than any other machine on the market, and with the labor of a single operator. The distribution is accomplished by a separate machine, two of which can be run by a boy or apprentice. The labor cost of operating the machine is therefore the lowest possible. No machinist's attention is required, as the mechanisms are all simple and do not readily get out of order. There is no question but that the mechanical parts of the Empire machines are far simpler and more readily managed by unskilled labor than those of any other machine of the sort.

In the first place, the arrangement of the keyboard provides for rapid fingering by such a positioning of the keys that the more common combinations come in regular order from left to right, thus enabling an operator to finger several characters in rotation with adjacent fingers, almost as he would strike them with a single pressure. Rapid fingering is further assisted by relieving the keys of heavy work. When the operator depresses a key, the very lightest touch is sufficient, as the key simply opens a passage through which a current of compressed air rushes to force a pusher that thrusts out the required type from a channel. The little reservoir of compressed air is kept

full by a simple arrangement resembling a bicycle pump driven by the power applied to the machine.

When the type is pushed out it falls to place by gravity down a transparent glass slide that enables the operator to see just what is going on. The striking of a space-key causes a mechanism to insert the thin end of a wedge into the line. When as much type is composed as will make a line, a line-key is touched, and the line is at once carried away to be automatically spaced, while the composition proceeds. The method of changing the wedges for spaces of the proper justifying size is interesting, and takes place within full view of the operator, the devices being of the simplest character. The line is first carried from the place of composition to a stop, which engages the projecting ends of the first wedge in the line and stops its movement directly under the discharge openings of a space-rack, which contains a supply of spaces of the different sizes. The temporary wedge space-bars are first pushed further through the line, spreading it to its full measure, and at the same time the space-rack is automatically moved until the compartment containing spaces of the proper thickness to replace the space-bars is brought directly over the line. A plunger then pushes a space down into the line at the same time that the wedge is withdrawn. This operation is automatically repeated until each wedge in the line has been withdrawn and replaced by a space of the proper thickness. The machine itself, without any attention whatever from the operator, always selects spaces of the required thickness to space out the lines uniformly and exactly. Everything is automatic and proceeds smoothly, the line being carried to its final position in the galley,

still within full view and within easy reach of the operator, who can make corrections at almost any stage of the work, without shifting from his position.

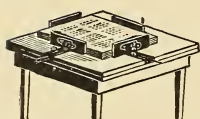
It is with these simple mechanisms, all arranged within a small space, and operating without intricacy or dependence upon electricity or complicated devices, that the Empire machine does its work. It gives the very best product, founders' type of any face, accurately set and justified by one man, and accomplishes it with less mechanism than any other machine. Because it has few parts, all operating directly and within full view, it becomes a practical, every day machine, the sort that will stand to its work week in and week out, never baulking or requiring the services of an expert to keep it in order. It is to typesetting machines what the Gordon has been to other job presses, a success because of its easy running and entire absence of causes for bothering, or pottering around and putting in time without receiving results. It sets type all the time, as many hours a day as there is a man at the keyboard, causing no delays, and it sets and justifies the type as it should be done.

The distributing part of the Empire machines has been vastly improved and brought up to date. It now unleads dead matter automatically, and can be run at a rapid speed. The attendant has only to pack the dead type squarely on the galley, and turn on the power, and then to carry away the magazines as they are filled. The face of the type is not submitted to friction or any chance of battering or injury.

While the Empire machines are made with magazine channels for definite sizes of type bodies, yet one machine can be made to handle several sizes, as ten

point and nine point, both on a ten point body, and eight point with a shoulder for leading. In this way a considerable range is provided with a single machine, and with two or more there can be had all the type bodies likely to be required in a printing office. The principal offices of The Empire Machine Corporation are at 203 Broadway, N. Y.

PAPER JOGGERS AND ALARM COUNTERS.



No printer having a cylinder press can afford to be without a paper-jogger. The cost is only \$15 to \$20, according to size, and by evening up the sheets as they fall on the delivery table, it saves not only the time of jogging up the paper by hand, but the spoiling of such edges as protrude from the pile when the paper is not jogged up. If a cylinder press is run all day without a jogger, somebody must spend at least two hours to jog up the sheets by hand, or there will be a loss of possibly a dollar in spoiled paper. The best joggers made are those of the pioneers in the business, R. A. Hart & Co., 42 Lincoln St., Battle Creek, Mich. They also make counters at from \$3 to \$15 each, with alarms, and counters ringing automatically at 100 and 500; all of which are money-savers for the printer. Their new \$3 counter for small presses is the best on the market.

HOW DO YOU BUY YOUR INKS?

In an early chapter of this book the printer is urged to see that he buys to advantage, for carefulness in buying may add quite as much to a year's profits as good selling. The printer buys machinery, type, paper, and ink—less ink than any of the other goods, hence he is most apt to order carelessly, paying little attention to what he gets or what he pays.

Undoubtedly the correct policy for the printer is to buy always the best inks that his papers will carry, and to purchase them at the closest prices obtainable; but the difficulty in carrying out this policy is that the printer is usually wholly unable to know the quality of the ink he buys until after it is in use and paid for. He may assume that 6-cent news ink is better than 4-cent, and that one dollar book ink is superior to 50-cent book, and yet he is often liable to pay six cents for the inferior news and one dollar for the inferior book!

A few years ago a certain firm in a kindred line decided to go into the ink business, and taking the name of a foreman, which happened to be similar to that of an ink manufacturer of long reputation, proceeded to advertise in the most lavish manner, offering inks at very moderate prices. They received orders almost by the carload, from Maine to California, and for a time were doing about one-fourth of the ink trade of the country. But of course such heavy advertising expenses had to be paid for in some way, and the only way for them was to take it out of the quality of the ink, and the barrels and barrels of coal tar and cheap petroleum that went out attested to their ability in imposing upon the printer. Of course that ink business collapsed, but the printing trade as a whole should profit by the lesson, which is to buy only of an ink house that has the trade and confidence of large printing houses, and which does not spend enormous sums in advertising its goods.

Such an ink house is that of Philip Ruxton, at 290 Broadway, New York. His is a name seldom seen upon the broad pages of the trade press, because he prefers to put the cost of the advertising into the inks. Upon his ledgers are to be found the names of some of the largest and most conservative printers in the United States, whose proprietors have learned that the name Ruxton in inks means what Rogers does in silverware, being a guarantee that the quality to fit the price is always given. They have learned that a dollar ink from Ruxton has a dollar's worth of value in it, and so on with every grade and price. They do not have to haggle about prices, or to test the quality of every lot that comes into the place. They simply decide what grade of inks they will use on certain work and place the order with Ruxton, confident of the results. This sort of advertising is a slow kind, but it is sure, and while the Ruxton inks are not as well known as some, where they are known they invariably head the list.

Ruxton inks are mixed on honor; he cannot afford to mix them any other way, because he would ruin the reputation already built. He sells inks in any quantity, for any purpose of the printer or lithographer, from ounce tubes of colored inks to hogsheads of news inks, and at all prices, just as the customer orders, but always with the Ruxton guarantee that the quality is all that a careful management will allow for the price charged. The printer who buys his inks knows that he is buying wisely, and avoiding the nuisance of bartering to secure a lower price, as the first price is always the lowest, and invariably lower than he can buy the same grade of any heavily advertised inks. The stock carried is always large, so that prompt deliveries are made. Every endeavor is made to adapt the inks to any special papers required by the customer; in fact the service is intelligent and satisfactory in every way.

PERFECTION WIRE STITCHERS.

THESE celebrated machines, manufactured by The J. D. Morrison Co., are in use in printing-offices and book-binderies all over the civilized world, many thousands having been sold in the United States alone. No office intending to do binding can be considered complete without at least one of these machines.

Those known as the old style "Perfection," viz.: "A," "C," "E," "F," "G," "H," and "No. 7" are too well known to the trade to need any introduction or explanation here. However, within the past few months The J. D. Morrison Co. have placed on the market their line of New Perfection Stitchers, Nos. 2, 4, 6, and 12. These machines mark the highest development in their class yet attained, and as their name implies are as near Perfection as the human mind can devise.

The capacity of these machines vary on books or pamphlets from two sheets to $\frac{3}{8}$ -inch; up to $1\frac{1}{2}$ -inch in thickness may be stitched. The J. D. Morrison Co. have departed entirely from the traditionary lines of construction in making these machines, and have in each of them new patented spring roll feeding devices, with automatic adjustment to any size of wire, and new patented cut-off and clinching apparatus.

The forming and supporting devices, also patented, deserve special attention, as the forming is done separately, to save wear on the supporter, and the supporter has a backward motion which leaves the front of the machines entirely free to the operator.

The machines are made so that the parts are interchangeable, and no change of parts is required when changing from one size of wire to another. Their durability and small cost for maintenance is attested by hundreds of the largest concerns in the world.

The recently established English, French and German agencies for The J. D. Morrison Co., place them in a position to supply European customers more directly than heretofore.

The J. D. Morrison Co. are also the largest dealers in bookbinders' and box makers' stitching wire in the United States, and carry a complete stock of all the sizes both round and flat, at their head office, 60 Duane Street, New York City. Their wire is guaranteed in every

particular, and some idea may be had of the extent of this branch of their business when it is known that any ordinary month's sales will aggregate *four hundred million* (400,000,000) *stitches*.

For prices and all particulars, apply to them direct at the above address.

SUPERIORITY IN TYPES.

FOR nearly a century the Old New York Type Foundry has been to the fore in the typefounding industry of America, and as Farmer, Little & Co., and later as The A. D. Farmer & Son Typefounding Company, it has been second to none. Among its productions will be found the largest collection of body type faces made by any one foundry anywhere. The concern has been led to produce so great a variety of body type faces, by the numerous requests from time to time for special designs for some particular work. Orders of this sort came unsolicited because of the exceptional talents and expertness of the designers and punch-cutters who have been trained in the service of that foundry. As most of these body faces have been cut in steel punches, they are the best and sharpest known to the printers' art, far outranking the faces reproduced by other processes. Owing to long experience in the making of alloys, this foundry has been able to produce a metal for body type which thousands of printers testify to as outlasting any other type metal ever offered them.

The display faces of the Farmer foundry are characterized by usefulness and wearing quality rather than bizarre effects. All the plain and more standard faces are to be found in great variety in their specimen books. While they cut novelties as occasion requires, they cater rather to the requirements of the every-day printers and publishers who want serviceable type.

One of the latest productions of seasonable faces is a beautiful series from 6 to 12-point, known as Old Style No. 40, designed for the very best grade of book and magazine work. This is an old style, distinctive in character, having a condensed effect without much condensation, and being entirely without hair-lines or unprotected serifs. It is a letter that will wear indefinitely, and retain its characteristics as it wears, instead of breaking down and thickening as do hair-line characters.

This firm rounds the century mark in 1904, and for three generations has enjoyed a liberal patronage from most of the great printing and publishing houses of the new world.

THE BEST IN ROLLERS IS THE CHEAPEST.

GOOD rollers are the secret of good presswork. The manufacture of composition that retains its life and suction for a long period has been brought to its highest perfection in the largest establishment on the globe, that of O. J. Maigne, at 324, 326 and 328 Pearl Street, New York. Mr. Maigne, whose reputation is world-wide as a producer of the best article known to the trade for the operation of printing presses, associated himself in 1880 with D. J. Reilly under the firm name of D. J. Reilly & Co., which style was continued until the death of Mr. Reilly in 1889. Since that time Mr. Maigne has continued the business, and has from time to time enlarged the plant, until he has now the largest and most complete establishment in the world for the production of printers' rollers. It is provided with all the latest and most improved facilities, including tons of special machinery, such as "roller-casting" machines and improved machinery required for the manufacture of Printers' Rollers of all sizes and description, costing upwards of \$20,000. The capacity of the plant is so great that customers are served in the shortest

possible time. The receiving of new rollers when they are wanted often doubles their value to the printer.

Mr. Maigne also manufactures an article for dispersing electricity in paper, which has achieved a marvelous success. There are many imitations on the market, but the trade has concluded that Maigne's Electric Annihilator is the only production that accomplishes the desired effect, and the sale of it is exceedingly large. Every printer should keep it in stock, as he can never tell when the electric nuisance will tie up one or more of his printing machines.

There has also been added to the business the manufacture of Pressroom Paste, which, although a recent feature of the establishment, has already attained a splendid reputation amongst printers, and a correspondingly large sale. Being put up in several grades and in packages of all sizes it is very convenient.

SUPERIOR EXCELLENCE IN PLATEN PRESSWORK.

THERE are many printers who gaze respectfully at the higher grade productions of printing presses, and who admire them, but who realize in a vague way that they cannot produce such results. Sometimes they think it is their own lack of experience in executing an extra quality of presswork, whereas the chances are in nine cases out of ten that they have not the press that will produce the very best results. There is only one style of job press that gives the printer practically an unlimited amount of ink distribution and an overplus of impressional power, and that press is the John Thomson Colt's Armory machine. The value of this press to the printer has simply doubled since the halftone illustration came into common use, for no class of printing requires such excellence of machinery. To do good work from halftone plates there must be an entire absence of slur, as the dots are sometimes 180 to the inch, and a slip of even the thousandth

of an inch not only mars the effect, but fills up the minute depressions of the plate with ink, so that the work is dauby, and frequent wash-ups are required to make it at all presentable. A minute slur is the rule rather than the exception with three out of every four platen job presses. On many classes of work it is not noticeable, so that the printer thinks his machine is all right until he tries to print halftones, and then he finds that something is wrong, though he often does not know what and blames the photo-engraver for making a poor plate. With the Colt's Armory press the construction renders any sort of slurring absolutely impossible. It will print any form that can be gotten into the chase, and will give as good ink distribution on the corners of the form as elsewhere. Every printer knows how poor is the inking on the corners of a form inked by disk distribution; also that the last roller to pass over a form on such a press is the one that has covered but a third or a half of the ink disk, and so is but half inked.

The Colt's Armory system of cylinder distribution for the ink is unexcelled. The pressman can cut up the ink to the last degree, and lay it equally on all parts of the form. The disk distribution does not approach it in quality, and even the distribution on cylinder presses is inferior because of the larger forms depriving the rollers of a portion of the ink before the whole form is covered, so that on difficult forms it is always possible to tell by the imperfections in inking which edge of the sheet was inked last.

The fact that the Colt's Armory presses, which command much higher prices than the ordinary platen jobbers, are to-day selling very much faster than ever before is commended to the attention of thoughtful printers. Why are so many preferring to pay twice as much for one machine as another of the same dimensions? Is it not that the superior quality of the work produced brings trade to the printing office, and establishes reputations for high grade printing? A hundred or two more dollars paid

for a job printing press means a cost of but six or twelve dollars a year in added interest, and the addition to the character of the work produced and the price commanded for the same may be many times as great.

In the larger sizes the Colt's Armory presses are often employed for a high grade of work, as illustrated book pages, that would naturally go on cylinder machines, because of the superior excellence of the printing and greater economy in handling small forms. For three-color forms and jobs of difficult register they are far ahead of the two-revolution presses. The ease with which they can be adapted to embossing, also adds to their earning capacity. For price list and further particulars, address John Thomson Press Co., 253 Broadway, N. Y.

BUYING OF PRINTING INKS.

THE buying of printing inks is a matter which requires careful consideration, especially as the constant increase in the speed of presses, and the great difference in the printing quality of papers, that are apparently similar, necessitate the careful adjustment of printing ink to its intended purpose. Time was when the master printer bought the heaviest and stiffest inks he could obtain, with the object of receiving a maximum amount of color for his money, and then reducing it and manipulating it to suit himself. Such methods are impossible at the present day. The rush and hurry of existence, especially in the printing business, would not allow the waste of time that would ensue; and in addition, the new problems that daily arise require the services of a specialist to solve them.

Therefore, it has come about that to-day inks are bought more than ever upon confidence in the ink maker, and it is well for a printer to place his orders for inks with a manufacturer who has never taken advantage of his confidence.

The manufacture of ULLMAN'S INKS is based on the experience of the past and the progressiveness of the present. The reputation of ULLMAN'S INKS during the past thirty years for high quality is sustained and augmented by the facilities of a new plant, equipped with the most modern machinery and appliances.

The prices of ULLMAN'S INKS are made in strict accordance with the lowest possible cost of production and legitimate profits. ULLMAN'S INKS are made to suit their intended purpose, and no extra charge is made for knowing how to do it.

For the convenience of New York City trade, a downtown branch has just been opened at 23 Frankfort Street, where the Sigmund Ullman Company will be pleased to receive friends and patrons. The model factory of the Sigmund Ullman Company is situated at 146th Street and Park Avenue, and is open for inspection at any time to those interested.

WESEL SPECIALTIES FOR BETTER-CLASS PRINTING OFFICES.

THE average dealer in printing appliances sells a line to meet the strictly average requirements of the general printer. There is one house—Wesel's—that has built up a world-wide trade with the larger printing establishments

by catering to their very special requirements. The house of Wesel makes a complete line of printing materials in wood, brass, steel and iron, and a complete line of machinery for electrotypers, stereotypers and photo-engravers; and a few special machines for bookbinders, but we here invite attention to some few of the Wesel specialties, which have resulted in great economies to the printer.

The Wesel Patent Iron Grooved Block for holding plates on the press, is now in use by most of the larger establishments which print from plates, and it is confidently predicted that it will supersede all other styles of blocks. It has won this encomium from Mr. Oscar W. Brady, superintendent of the printing department of the McClure (Magazine) Co., in an address before the New York Typothetæ:

“There is now a block on the market which covers the entire bed of the press, and accommodates any size of plate, and enables you to take off or put on any plate in the form, and register it exactly without disturbing any other plate on the press. Furniture used for locking up the forms is bound to shrink and swell according to the weather, thus throwing the forms out of register and causing them to spring in the centre. This block not only gives perfect register, but being solid and having no spring, it has a great advantage in regard to the wearing of the plates. In three-color work alone this advantage is well worth all the block costs.”

The Wesel Self-Inking Proof-Presses which print from the web (or roll), or from flat papers, will turn out more than five times the quantity of perfect proofs than can be produced by the ordinary galley proof-press, to which it is as far in advance as a web perfecting press is to a hand press. The ordinary galley proof-press is uneconomical in the larger printing offices.

The printer who is interested in *reducing wage expense* by improved labor-saving appliances, will find the Wesel Machines for making cuts type high, and for mortising, sawing and trimming metal, wood and brass, all constructed on the most advanced principles, and all moderate in price.

The printer who is interested in *reducing rent expense* will achieve space-saving by using Wesel Success Case Stands, space-saving galley cabinets, galleys which are self-locking and save not only the side-sticks and quoins but the space these ordinarily occupy.

The printer who is *reducing cost of production* by using linotype and typesetting machines will increase savings by using Wesel's equipments for such offices. Linotype Saw Tables with slot-cutting attachment for expediting tabular work, special galleys, furnaces, ingot moulds, slug-cutters, and a variety of improved tools. Wesel is the inventor of beveled column rules to prevent rules from working up in linotype pages.

The printer who loses time in getting register and straightening twisted forms through defective, inaccurate chases needs Wesel Electric-Welded Chases. They cost no more than hand-welded chases. It is not possible to make so good chases by hand-weld. Wesel is the sole owner of the right to make chases by electric-welding. Wesel chases are stronger, truer, and thus save time.

The printer who can save type and cost of composition by using stereotype plates will find Wesel's Stereotyping Machinery the most perfect, especially the Wesel Cold Process Stereotyping Outfits, the first practical outfit devised; there have been amateurish, unsatisfactory attempts—Wesel has satisfactorily solved all difficulties, so that *without injury to type* good plates can be made quickly.

To sum up: F. Wesel Manufacturing Co., at 82-84 Fulton Street, New York, with factories in Brooklyn, makes and sells every regular approved appliance used by the printer; and in addition, supplies a line of specialties as above which are quick-acting cost-savers. "Wesel Quality" is synonymous with the best quality, and if you have not availed yourself of Wesel's successes you are handicapped in competition with Wesel's customers.

THE ECONOMY OF USING COPPER-FACED TYPE.

A WHEEL without a tire is unfinished—incomplete. This little iron band is universally recognized as essential since it presents a wearing resisting surface far more durable than the wooden wheel. It is exactly this principle that applies to the copper-facing of type. The coating of copper on the face preserves the type compound from decay and presents a hard, unyielding surface having double the wearing capacity of any type compound. It is impossible to alloy type metal with more than the minutest portion of a hard metal, which fact is well known to metallurgists. As practical printers we know that an electrotpe is superior to a stereotype. It is only logical to apply this well known fact to copper-facing. It not only doubles the life of type, but gives a print that is sharper and clearer. An office spending \$200 a year for new type would save \$100 of this, or \$2 a week, by having type copper-faced when bought. A \$50,000 plant spending \$3,000 a year for type uncoppered would save at least \$1,500, which sum would pay the interest on half the capitalization. The cost of coppering is but a fraction of the first cost of type; the letter only is coppered, without the spaces and quads, and the result is equivalent to buying double the amount of type. The Newton Copper-Facing Type Co., 18 and 20 Rose Street, N. Y., the patentee, was established in 1851, and the advantages of the invention it controls may be judged from the fact that every large daily from Maine to California used type copper-faced by this company when printing from foundry cast type. For typesetting machines it is absolutely essential, if economy is considered.

This company has statements from numerous houses of the highest standing, showing that type copper-faced has often been in service for ten, twenty and even thirty years, and has been subjected to millions of impressions.

MONEY-SAVING DEVICES.

It is in saving many little losses of time that the careful printer can show a good balance of profit at the end of a year. It has been conceded by those who use Megill's gauge-pins, gripper-fingers, feed-guides, etc., that they save at least half an hour a day on a job press, besides reducing the danger of spoiling paper through a loss of register. If you run two job presses you can save a whole hour every day, or 300 hours in a year, and figuring this at only twenty-five cents an hour, that is \$75 in a year. It is really more than twenty-five cents an hour, as can be seen by reference to the chapter on "Estimating." But if it were only \$25 a year thus saved, how penny wise and pound foolish of the printer not to supply his job presses with Megill's inventions, the whole assortment of which can be had for a few dollars. He makes no less than twenty styles and sizes of gauge-pins alone, each one a time-saver on some class of work; and a whole series of sizes and arrangements of gripper-fingers, for pulling off sheets that are difficult to handle.

Mr. Edward L. Megill, of 60 Duane Street, New York, the inventor of these devices, is a practical printer, and has spent a lifetime in the study and development of little conveniences for platen job presses. He makes them in his own factory, and sells them at nominal prices. The printer who is not familiar with all the styles should send a postal of inquiry and learn. It will save good dollars at an expense of cents. Ten to one you will find that you had no conception of the many conveniences made by Mr. Megill. There are the substantial steel gauge-pins,

some with spring tongues that greatly assist the feeder; also gauge-pins with screw and eccentric adjustments; and gauges that may be glued on like a quad, or bolted in the tympan paper. Then there are side gauge-pins that depress under the gripper and permit it to grasp the sheet; extension feed-guides for sheets larger than the platen; and gauges that do not damage the tympan, but permit the tympan to be used for many jobs without change. Most of these styles are adjustable by one means or another so that they may be set accurately to register. The spring-tongue gauge-pin is suited to the customary work of the job press; the perfect register gauge is desirable for fine color work.

A WORD ABOUT PRINTING INKS.

THE printer who seeks to increase his yearly profits by pointers gleaned from this book should not neglect consideration of the best means to secure value for the money he has to spend for inks. There are many materials in the market the merit or demerit of which cannot be determined except by trial, among which are chemical compositions, paints, varnishes and inks. But of all articles that come under this category probably printing inks are the most difficult to select as to quality and probable results.

The ordinary methods of judging of compounds avail little in the case of printing ink. You cannot tell the value by looking at it, for a ten-cent black looks as black in the keg as a dollar black. The smell gives no clue, neither the taste, were the printer willing to daub his tongue in the interest of investigation. Neither does the weight lend any clue to the character of the ink under considera-

tion Some try daubing a little with the finger on the paper on which they consider applying it, but this only yields a close guess as to the color, and nothing as to the other qualities.

How, then, can it be bought knowingly, so as to give satisfactory results to the printer who uses it? Very simply. By buying of a maker who has proved that he values his reputation, as ^{of} the Fred'k H. Levey Co., of 59 Beekman St., New York. If the business of a manufacturer has been established over a quarter of a century, and he has numerous testimonials of the strongest character, from literally hundreds of first-class houses, is it not the best sort of assurance of the absolutely uniform character and reliability of his manufactures?

FRED'K H. LEVEY, Pres't.
CHAS. E. NEWTON, Vice-Pres't.
WM. S. BATE, Sec'y.

FRED'K H. LEVEY CO.,
59 Beekman Street, New York.

TYMPALYN SAVES MAKE-READY.

BY C. H. COCHRANE OF NEW YORK

THE above is the verdict of some of the most eminent printers in America, who have tested its qualities most thoroughly. The average printing press is unproductive for two or three or four hours a day, because forms are being made ready. Tympalyn not only saves half or more than half the time of making-ready, but increases the capacity for production of the pressroom, and affords the printer a chance to take more work, which he can do profitably, knowing that he will lose no appreciable time in getting the forms started on the presses.

Tympalyn has proven that there is no need of cutting overlays in four or five thicknesses to bring out the shadows of a fine illustration. With this make-ready blanket the contact between plates and paper is different from what it is with hard packing, and the natural features of the plate are automatically reproduced, with a result like that of the engraver's proof.

Tympalyn is a material in the form of a blanket composed of a series of interlocking spring coils, filled with rubber, having an air pocket running the entire length to allow the action of the springs. When once applied it becomes a part of the press. On top of this is a thickness of very hard, specially prepared fibre or pressboard, which protects the type or plates in the same way as the hard packing, but does not wear them by pressure as does the hard packing. Over the pressboard two or three sheets of manila paper are stretched, to afford opportunity for patching up or cutting out, only a very little of this being required.

A long series of experiments were necessary before Tympalyn reached the perfected state in which it is offered to the trade. The inventor and patentee, Arthur S. Allen of Boston, is a practical printer of experience, familiar with the niceties of presswork, and the refinements of the highest class of printing. The spring coil wire blanket which he has produced is radically different from the old-fashioned rubber blanket, discarded by our fathers. The wire coils automatically search out the unevennesses of the form, and print them as if they presented a true and level surface. It is not claimed that Tympalyn saves the entire process of make-ready, but it takes care of a-half to two-thirds of the work, according to the nature of the form. With Tympalyn, a few large patches on the more solid parts in the form, and perhaps a few high points cut out on the tympan, are all that are necessary, and these do not require at all the accuracy that is requisite for hard packing. Sometimes large forms are made ready in half an hour,

and the more difficult class of forms, that often take a day or two of the time of high-priced men, working on hard packing, are made ready with Tymphalyn in a few hours.

Type forms require scarcely any make-ready where Tymphalyn is used. In open work, as tabular matter, poetry, music, etc., where under the old system there was required a great deal of patching, the use of Tymphalyn often enables the pressman to print a nearly perfect impression at the first trial. With halftone illustrations, on proper bases, a fine impression may be had at the first trial. If the work is of the highest class, one (rarely more) thin overlay is added to the darker parts, covering masses rather than detail, and when this is done the resultant printing cannot be distinguished by experts from the best work on hard packing with four or five thicknesses of overlays.

A cylinder covered with Tymphalyn does not wear type and plates nearly so much as where hard packing or rubber tympan are used. A round million of impressions have been taken from a form of electrotypes and the plates at the end of the run showed no serious wear. It is with difficulty that the first sheet of a long run can be distinguished from the last, so clear and sharp do the plates remain. In the case of a form of 150,000 impressions, experts were able to detect the first sheets from the last only by a few trifling batters that had been inflicted by the carelessness of the men running the form. The corners and unprotected edges of the plates are so completely protected by the extra hard surface of pressboard, and the pressure of the Tymphalyn is so trifling as compared with the crushing force of hard packing, that wear of plates becomes an item not worth figuring on at all under the new conditions.

A considerable saving of power also results from the use of Tymphalyn on a cylinder press. The lessening of the pressure on the press makes it possible in most

cases to speed the machine a little faster without reaching the point where the jar of reversing the bed tends to damage the life of the machine.

In the nature of the case it is impossible to give an exact estimate of the saving or profit with Tympalyn, but the following may assist the master printer who desires to figure it: Suppose a cylinder press on which the average make-ready under the old system of hard packing was three hours a day, and that with Tympalyn there is an economy of one and one-half hours daily; this is 450 hours of producing capacity saved, which the printer can sell at say, \$1.25 per hour, or \$562.50 per year, if he knows how to get the work. In addition, his type will last twice as long, and his plates withstand an indefinite amount of wear, and his bill for power is reduced. This economy should represent at least \$250 a year on a press that is kept busy. So that the master printer may effect a saving of \$800 a year through the use of Tympalyn, without figuring at all on the increased speed that he may be able to apply to his presses.

Where the runs are short, three presses equipped with Tympalyn will do the work of four with hard packing, saving the price of another press. The chances are, however, that the printer who equips entire with Tympalyn will soon find that he requires more presses rather than fewer, for Tympalyn with its reduced cost brings more trade. Andrew Carnegie is said to have acquired his wealth largely by his willingness to sacrifice anything to secure the latest and most improved machinery. He would throw out the most costly equipment only a year or two after installing, if he were offered machines that were ten per cent. better. His profit was made, not so much on the saving of the labor effected by the new machines, as that in this way he distanced all competition, and secured the trade of the public.

In the same way the printers who are the first to adopt Tymphalyn will find that the value is even greater in the increase of trade and importance of the printery, than in the present cash saving, even though that be a large item.

Some have thought that the use of Tymphalyn was disadvantageous to the pressman, as taking away his labor. This proves not to be the case, for where Tymphalyn is used the experience is that the reduction in cost brings more work to the office, and there is rather a tendency to employ more help than to discharge. A pressman who can do the most rapid work with Tymphalyn never finds his wages reduced because the process requires less skill, but on the contrary employers are apt to pay higher wages because they are making more money.

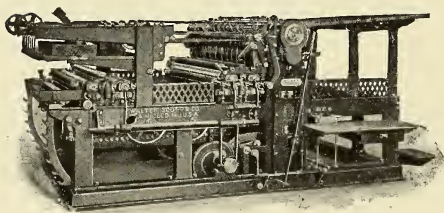
When firms like The Matthews-Northrup Co., Buffalo; Harper & Bros., New York; J. J. Little & Co., New York; American Book Co., Cincinnati; Berwick & Smith, Norwood, Mass.; Blumenburg Press, New York; Rockwell & Churchill, Boston; R. R. Donnelly & Sons Co., Chicago, etc., adopt Tymphalyn and are satisfied with results secured, no further evidence seems required to demonstrate that it is adapted to the highest grades of work, and that it effects a large economy.

Those interested to read testimonials, terms on which Tymphalyn is furnished, etc., should address The Tymphalyn Company, 22-28 High St., Boston, Mass. Arthur S. Allen is President, and Forrest E. Lovejoy, Business Manager of the Company.

SCOTT PRESSES ARE MONEY-MAKERS.

THE employment of good machinery, that will do satisfactory work year after year with a minimum of repairs, has much to do with the printer's success in making a profit in his business. The cylinder presses that are the handiest to operate, on which make-ready is easy, on which there are no hitches or delays, and which are adapted to a wide range of commercial work, are the machines with which most printers coin their money, if they coin it at all.

Such presses are those made by Walter Scott & Co., of Plainfield, N. J., in a factory under his personal supervision, where every detail of manufacture has been worked out to the utmost accuracy. Their two-revolution cylinder machines are at once the most modern, the most solid, the most scientifically constructed of any in the market.



Scott's Two-Revolution Cylinder Press.

Superior impressional power, greater distribution, and more speed capacity are the three claims made for these machines, any one of which places them ahead of competition. The impressional strength is secured by an interior bracing of the cylinder-shell, giving a stiffness heretofore unknown in such presses, and necessary to oppose the unyielding bed, which is supported underneath in an equally substantial manner. This solidity of construction in the impressional parts reduces make-ready to the simple patching up or making level of the form, there being no "spring" to take out of the machine.

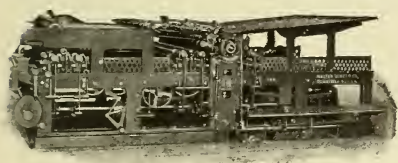
The high grade of ink distribution is secured partly by the gearing of all form and distribution rollers so that they turn positively and cannot jump, and partly by cutting the ink closely at the fountain and laying it on the distributors to be completely cut up before it reaches the ink table.

The speed of the Scott two-revolution is due to the up-to-date bed movement, which combines the simplicity of the old rack-and-tumbler driving with a more scientific method of reverse, that eases the bed at the point of jar, rendering higher speed possible without undue strain on the machine.

The gearing of bed and cylinder together during the entire impression insures absolute register and absence of slur, while the positive action of the grippers, firmness of the guides and absence of jar assist perfection of register in the feeding. The traveling-roller delivery, depositing the sheet, printed side up, on a table directly above the fountain, is admitted to be the most satisfactory ever placed on a cylinder press.

The Scott two-revolutions will do more work, do it better, and with less fuss and bother than any other presses of their class, no matter what claims are made for them. They will also outwear and outlast any others, as is proven by a long list of testimonials from users all over the world.

For an extra heavy grade of difficult work, as three color forms, etc., Walter Scott & Co. build a stop cylinder that is about a third faster than any other stop cylinder on the market, the speed being obtained by a new combination bed movement with cylinder

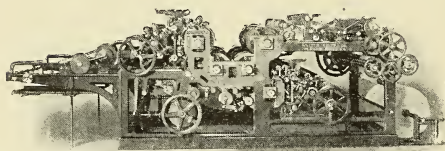


Scott's New Stop Cylinder.

controlling device. Heretofore stop cylinders have been preferred for the finest work, because the cylinder when at absolute rest permitted the most accurate seizing of the sheet by the grippers; but the stop cylinder has been fatally slow, until the Scott machine was brought out. Mr. Scott realized that to get speed out of a stop cylinder it was essential that a most powerful and heavy bed motion be employed, to take up the strain of sudden reversal of the bed and stoppage of the cylinder. He has produced a mechanism that will carry

smoothly shocks of reversal that would break up any other cylinder ever built. This press can be speeded almost as fast as a two-revolution, and bears all the minor devices that have made that so popular a machine. An automatic slip-sheeting device is also added, making it possible to slip-sheet the work at most trifling cost. This stop cylinder is also built for lithographic printing, either from the stone or aluminum plate, and with either it is the fastest lithographic press on the market.

When it comes to fast periodical printing, the Scott



Scott's All-Size Rotary Web Press.

all-size rotary has proven one of the greatest money-makers ever used in a printing office. This press is virtually alone in its field, being the only satis-

factory machine offered the printer for doing publications of all sizes at a high rate of speed. This machine brings to the aid of the large book and job printer all the speed and economy that the newspaper publishers can get from their rotary web presses. Every printer who has work for a dozen or more cylinders should investigate this machine, and learn how much more cheaply it will execute the work to which it is adapted.

The large line and variety of newspaper web printing machines, both flat bed and rotary, made by Walter Scott & Co. are too well known to be enlarged upon here. Those interested can secure catalogues of them by writing to the offices of the Company in either New York, Chicago, Boston, St. Louis, Cincinnati, or London, or to the factory at Plainfield, N. J. A great variety of news and job presses and of stereotyping machinery will also be found in the catalogue. The printer need only explain his needs to this firm, and he will be shown the machinery best adapted to his individual wants.

THE BENEDICT IMPRINT ATTESTS EXCELLENCE IN PLATES.

THE illustration is the most attractive thing in the printer's product. High-class engraving enables the printer not only to please his customers and thus hold his trade at good prices, but actually reduces his cost of presswork. Probably few printers in ordering engraving and electrotyping consider the saving obtained in the pressroom by using the best plates. A set of plates may be printed from again and again, and if of inferior quality may waste an hour or two of both press and pressman on each occasion, and the master printer may pay for it without noticing it. How much better to have a high grade of plates for each and every job, and so secure uniformly beautiful results that establish the printer's reputation, as well as insuring a return of the extra cost through the saving of time in the presswork !

In placing orders for halftones, etc., the very worst policy for the printer is to seek to get the bottom figure per square inch. Should we ever have heard of Michael Angelo, had he worked by the square inch ? Perhaps some printer-reader may think the comparison far-fetched, and assert that the photo-engraver is not an artist, but simply a reproducer of art by mechanical means. This is a false notion. The every-day photograph reproduced mechanically at a close price per square inch, is not art but manufacture; while the high grade illustration calls not only for the very fullest technical knowledge and ability, but for the real artistic sense. Does any printer imagine

that such work as that reproduced herewith is turned out *mechanically*? Benedict's imprint is known all over the country as attesting excellence, and this result is attained only by the most persistent and patient, as well as intelligent and capable management.



Courtesy of Geo. E. Benedict & Co.

The printer who wants the Benedict class of work does best to let the photographer work under their express direction; for when photographs are poorly toned, or have solid colors or abrupt lights in the parts that should be nicely graded, or when negatives or tintypes

are offered as copy, the photo-engraver is handicapped at the start, and obliged to add expensive hand work in order to secure satisfactory results.

When the photograph is not all that could be desired, or when the subject is difficult, the photo-engraver finds it necessary to resort to the hand graver, to cut out high lights ; he has to restore the details lost in the shades or shadows, and yet he must not let it appear that a graver has been taking out material here and there, for if he produces sharp effects he mars the softness so much admired in the halftone. All this calls for exceptional skill, judgment and artistic appreciation, and it is largely because of the exceptional corps of expert retouchers trained in their own establishment, that Benedict & Co. have achieved such a reputation for superiority in this part of the work.

In the making of zinc etchings, the Benedict excellence is quite as noticeable. The providing of proper drawings has much to do with superior results in this class of engraving. All drawings should be made in clear black lines on clean white paper, and without flat tints or blurred shadows. If Benedict & Co. make the drawings, as well as the etchings, perfection is assured, for years of experience in this branch have enabled them to build up a staff of pen artists unexcelled anywhere. In the old method of wood-engraving, which is still the best for illustrating many subjects, particularly machinery, the best of work is insured by this firm, as they have retained in their employ some of the most exceptionally expert of the fast-disappearing generation of wood-engravers.

The less known wax process, which is particularly suited to geographical work, diagrams, fine scripts, intricate rule work, etc., is practiced at the Benedict plant with success, as are also several special methods and processes developed by themselves and retained for the improvement of their own product. A large business is also transacted in steel and copper-plate engraving, plate-

printing and stamping, as for the choicest wedding invitations and visiting cards. Type printers desiring to serve their customers with the very best of this class of work, at a rate that will afford them a profit, are invited to write for a price list.

In order to get the very highest results from delicate engravings, the printer often finds it necessary to do the presswork from electrotype plates, and if these are made by Benedict the fact that the printing is not done from the original is often indeterminable, because Benedict electrotype plates are of a quality seldom seen elsewhere. In the average electrotype foundry the work goes through a certain routine and takes its chances. If there is a rush of work the depositing is cut short, and the copper shell allowed to "go" thinner than it should be, in the expectation that the customer will not notice it. If the shell is curved at the time of backing (and it usually is) the finisher may let it pass, giving the customer a plate hollowed in the center, or he may decide to hammer it out, and in so doing he commonly batters or enlarges the fine dots or any delicate shading, or broadens any sharp lines that are on the margins of the electro.

In the Benedict electrotype none of these things can happen. The system provides that every plate shall have a shell of standard thickness, or if it is for a long run, a still greater thickness, and to prevent the up-curving of the outer edges in the finished plate, all fine work is underlaid in the centre before going to the moulding press, so that when the shell is made and backed it is either perfectly level or minutely lower on the outer edges. Electrotypes so made save half the time of the printer in make-ready and are the cheapest as well as the best.

Others may give the printer good photo-engraving and electrotyping some of the time, but Benedict & Co., of 175-177 Clark St., Chicago, give it to him all the time, and for this reason number among their customers firms in every State in the Union, as well as in Canada and Mexico.

MACHINERY FOR ENGRAVERS.

SOME printers find that they can, with advantage, operate an engraving plant as an adjunct to their printing business proper. This is often the case with printers who make a specialty of high-class catalogues, brochures, etc., and who deem it best to have all branches of the work under their immediate supervision and control. Such plants sometimes fail to return a profit because the managers, while giving due weight to the artistic side, fail to comprehend the importance of the mechanical branch. Good machinery for mounting and blocking is as essential to the commercial success of an engraving plant as good artists and good cameras. Badly mounted plates or delay in turning them out, mean serious interruptions in the press-room, which are always costly. The printer can make no greater mistake than to try to run an engraving plant with inferior tools. With the latest standard machines, such as those made by the Royles, of Paterson, N. J., handled by a competent man, he may get along well enough and avoid leaks in the blocking department. It is important, too, to have machines that are thoroughly up-to-date. The mechanical devices used by engravers are much better made, and are of far more importance now than formerly. Many things that used to be done by hand, are now performed by special machines which do the work better and quicker. The making of lines around the edges of half-tone plates illustrates this. The old practice was to make such lines either by ruling the negative or cutting the plate by hand with a graver. The Royles now have a machine that makes these lines in a wide variety of forms and arrangements at a nominal cost, and much sharper and neater than is practicable with hand work. It is such machines as these that go to make up a modern engraving plant, and unless the printer can make up his mind to use them, he will simply be behind his neighbors in equipment and his work will cost him more, and be less finished than theirs.

USING ILLUSTRATIONS TO INCREASE PRINTERS' PROFITS.

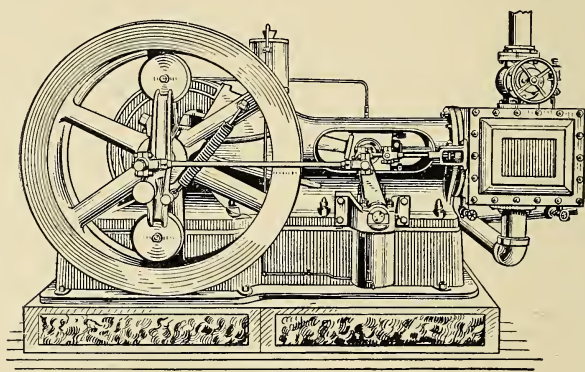
THE printer who fails to take advantage of modern methods of picture-making to enhance his work is behind the times. The printer who tries to handle his own illustrating, to fuss with artists, and to serve as a middle-man between the men who draw and paint, and those who do the mechanical work of producing printing plates, makes for himself an endless and unprofitable amount of labor, with accompanying dissatisfaction and annoyance. The public of to-day expects illustrations, pictorial matter, colors, embossing, or something in addition to the cold type, before it will be induced to pause and read. Therefore, the printer who seeks to build up his trade is obliged to foster the taste for pictorial effect in order to attract and hold custom. Every book, every magazine, every circular, every bit of printing that is advertising, demands a picture of some sort. The printed text appeals solely to the brain, but the illustration catches the eye, arrests the attention, and gives color to that which is otherwise flat and dry.

But printing is one trade and illustrating another. The printer who seeks to effectively illustrate his work cannot do it by purchasing a few odd cuts and sandwiching them in; he must have good, effective illustrating, or lose trade to the printer who secures better. Frequently, when he recognizes that superior engraving and designing is wanted to satisfy a customer, he goes to the artist and

has the drawings made according to their mutual notions of what is most applicable to the work. When he takes these drawings to the photo-engraver he is apt to be told that they are executed in a way that is hard to reproduce for that particular work, under the existing conditions. Perhaps the artist has made a wash drawing, when line photo-engraving is the best adapted for the illustration; or perhaps he has made a line drawing for a **work on** coated paper that should have halftones; or perhaps he has not worked up his shadows heavily enough to photograph well; or it may be one of a hundred other things that are always occurring when the artist and engraver do not work side by side with a mutual understanding. Then somebody has to pay an extra charge for making over the drawings so that they will suit the method of reproduction most desirable for the job.

In these days of illustrative excellence and unique pictorial effects, the above is a common experience with the printer who undertakes to handle his own illustrating. The loss and annoyance incident to such "misfit" illustrating may be entirely avoided by the printer who decides at the outset that he is not an illustrator, nor a middleman between artists and engravers, but a printer, and, that he cannot do such work to advantage any more than he can make rollers or cast type profitably. By placing his illustrating entirely in the hands of F. A. Ringler Co., of 21-23 Barclay Street, and 26-28 Park Place, New York, he not only secures the very best and most satisfactory service obtainable, but actually saves in cost as compared with the uncertain methods that have been discussed. The Ringler Co. is the largest photo-engraving establishment and electrotype foundry in the world. They do designing, line photo-engraving, halftone work,

wax engraving, wood engraving, metal engraving, die sinking for embossed plates, and color plate engraving,

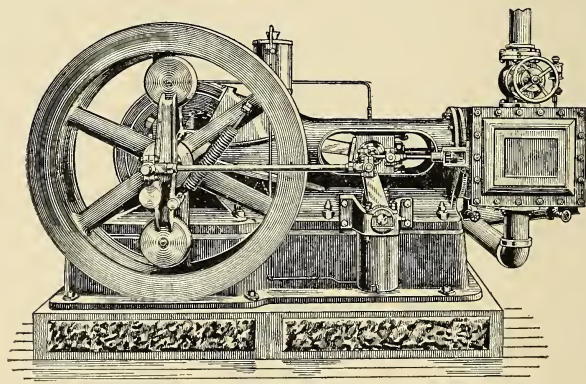


Line Cut—For Newspaper Work

Courtesy of F. A. Ringler Co.

in fact anything and everything that the printer requires in the shape of relief printing plates.

They employ constantly a large force of artists, skilled

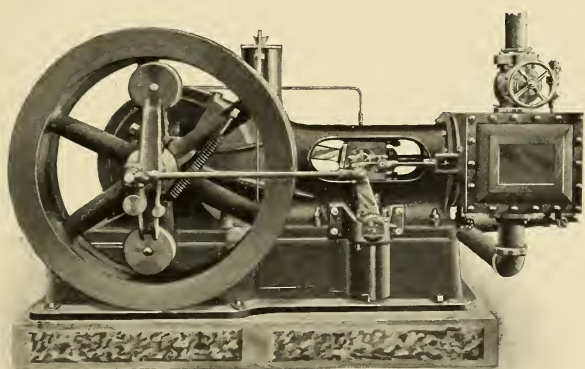


Full-Shaded—For Medium-Grade Catalogue Work

Courtesy of F. A. Ringler Co.

in various lines. Nearly all of them have specialties, which are at the service of the customer. Whatever the character of work desired, there is always an expert to

perform it, and sometimes a drawing will pass through three or four hands in order to receive the best touches for that part of the work in which each artist excels. In this way an excellence is arrived at that no work from single artists can hope to equal. Some of the beautiful magazine covers made by this firm owe their perfection largely to the fact that the color scheme was laid out by



Half-tone—For High-Grade Catalogue Work

Courtesy of F. A. Ringler Co.

one expert, the figures drawn by another, the landscape by a third, and the lettering by a fourth. These artists do nothing on the hit or miss plan. Before pen or brush is touched, it has been thoroughly decided what process of reproduction is best adapted to the work in hand, and if the job is to be printed on coated paper or rough surfaced stock, or a tinted paper, that fact is also taken into consideration. All the data being known, it is then concluded to do the illustrating in half-tone, or zinc etching, or stippling, or by three-color process, and the artist has his key from the outset, and labors in harmony with the skilled

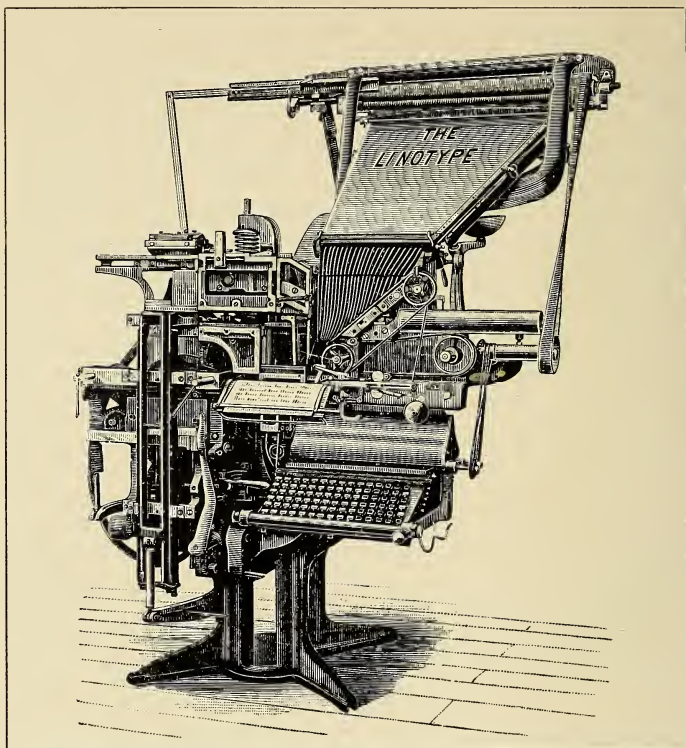
workers who will follow later in the more mechanical part of preparing the plate for printing.

When it comes to the photo-engraving part of the work, we all know that there are plates and plates. The highest grade of excellence is attained only by the Ringler method of watching each detail, and performing it with judgment and skill. No craft connected with printing calls for more ability and careful training than does photo-engraving. In this establishment there has been trained a corps of men specially selected because of their natural gifts, and in many cases educated right under the eye of F. A. Ringler himself, whose name is synonymous with all that is best in illustrating, and whose progressive methods, and readiness to take hold of new processes has kept his plant in the position of the acknowledged head of the trade of reproducing illustrations by mechanical processes. Wherever the photograph fails in any particular, the mechanical skill and knowledge of this corps of workmen is drawn upon to supply the deficiency. It may be in touching up the negative, or in judicious work upon the photograph, or in cutting out high lights in the final plate, or in a combination of all these delicate operations. The best knowledge of how to improve the original is always there for use, and the printer who patronizes F. A. Ringler Co. for the entire work of illustrating secures the entire benefit of such knowledge, and usually at an actual saving in expenditure, because there is no wasting of ammunition, no misdirecting of effort. Others make lower prices for specific portions of the work, but Ringler's price proves the lowest in the long run. Here as elsewhere, it is the best that is the cheapest.

In giving work to one engraver, and then taking his plates to an electrotyper to be duplicated, the printer in-

curs to some extent the same sort of trouble that arises from trying to do a middleman's business with artist and photo-engraver. There are misunderstandings, and he is always the unfortunate between the upper and lower millstone. When the electrotypes do not print as satisfactorily as the engraver's proof, and he tries to get at the cause and remedy it, the photo-engraver says it is the fault of the electrotyper, and the electrotyper is very sure that it is the photo-engraver's fault, the result being no satisfaction and no redress. This sort of trouble is entirely avoided by the patrons of F. A. Ringler Co. They give their orders for electrotypes with the order for the original plates, and they get duplicates as good as can be made. The fine vignetting of an original is never found hammered down in the electrotype, as the shells always are made level in the first place or discarded. The tendency to hollow out, or be low in the centre and high on the edges, is entirely avoided in the best grades of work through a manipulation of the original plates that produces a slightly reversed result, so that the edges of an electrotype that would naturally tend to print too sharply are perhaps a piece of newspaper lower than the solid body of the plate. By such refinements of excellence as this, a vast amount of time is saved the printer on his presses, when using Ringler plates. If blocked, they are sure to be properly squared, never causing any rising of leads or furniture. They require a minimum of make-ready, probably cutting this time in half as compared with the average plate. If they are color-plates, they invariably register, which is more than can be said of some.

The illustrations of halftone, line and full-shaded drawings that accompany this article serve to show the printer what he can have to set off his work from F. A. Ringler Co.



Courtesy of Mergenthaler Linotype Co.

THE MERGANTHALER LINOTYPE—A MACHINE OF TO-DAY.

WHEN it is stated that there are 7,500 linotype machines in use, and that each of these machines has an ordinary producing capacity of 30,000 to 50,000 ems in a day of eight hours, while many of them are run with two gangs or shifts of operators, it requires no special calculation to arrive at the result that this wonderful machine is doing more composition than was done on the entire globe fifteen years ago, when it made its first appearance.

The linotype is not a machine of the future, but of the present; its records are matters of value to the printer now, and not expectations of what may profit him in years to come. The printer simply cannot afford to do without a machine that reduces his cost to so small a

figure, and those printeries that have delayed investing have only invited more active competitors to take their work and the profits. The keyboard of the linotype is operated at rates ranging from 7 cents per 1,000 ems in small towns to 14 cents in large cities, as against 25 cents to 45 cents per 1,000 ems for hand labor, showing a saving of more than two-thirds to the employer, while allowing the operator to earn a much greater wage.

The vast saving accomplished by the linotype is distinctively shown in the 13th annual (1898) report by Carroll D. Wright, U. S. Commissioner of Labor. This report contains wholly impartial summaries of comparisons made between hand labor and a great variety of labor-saving machines in various industries. In his examination into the work of the linotype several observations were made as to the time and cost of composing 100,000 ems under different conditions. In one instance 100,000 ems of 8-point, book work, were composed on the linotype machine in 17 hours and 20 minutes, while the same work done by hand occupied 148 hours, or about eight and a half times as long. The labor cost by machine was \$4.40 and by hand \$41.60. In another instance, where the work was on 10-point, objectionable matter, that is matter containing considerable italic, 100,000 ems was set on the linotype in 22 hours, 28 minutes, and the same by hand in 177 hours, or eight times as long by hand. In this latter case the labor cost was \$5.69 by machine and \$46 by hand. It should be noted here that these were not speed tests, nor tests made by parties interested to make a showing, but simply observations made by the agents of the United States Government on actual commercial work, performed in the ordinary course of business, and not laid out for any one's special convenience. They are results that can be had in any printery where careful and intelligent operators are employed under good management, well paid, and supplied with good copy and inspired to do good work.

The following table, showing averages in a few newspaper offices, might be extended indefinitely:

AVERAGE MACHINE RECORDS
MAINTAINED IN VARIOUS OFFICES IN THE UNITED STATES.

<i>Offices</i>	<i>Per day</i>	<i>Per hour</i>	<i>Hours</i>
Baltimore, Md., News.....	.....	5,000	.....
New Haven, Conn., Journal and Courier.....	.....	4,000	.....
St. Joseph, Mo., News.....	.....	4,500	.....
Springfield, Mass., Union.....	.....	4,500	.....
Troy, N. Y., Times.....	35,000	.....	.....
Denver, Col., News.....	.....	5,200	.....
St. Joseph, Mo., Herald.....	.....	4,750	.....
Wilmington, Del., News.....	35,000	.....	8
Cincinnati, Ohio, Times-Star.....	32,000	.....	8
Buffalo, N. Y., Times.....	39,000	.....	8
Montgomery, Ala., Advertiser.....	.....	4,200	.....
Newark, N. J., Advertiser.....	36,000	.....	8
Troy, N. Y., Press.....	35,000	.....	8
Houston, Tex., Post.....	.....	4,400	.....
San Antonio, Tex., Express.....	.....	5,000	.....
Los Angeles, Cal., Times.....	.....	4,500	.....
Tacoma, Wash., Leader.....	.....	4,000	.....
New Orleans, La., States.....	32,000	.....	8
Peoria, Ill., Transcript.....	32,000	.....	8
Concord, N. H., People and Patriot.....	40,000	.....	9
Memphis, Tenn., Scimitar.....	32,000	.....	8
Philadelphia, Pa., Record.....	.....	4,200	.....
Denver, Col., Republican.....	.....	5,000	.....
New York Times.....	32,000	.....	8
Indianapolis, Ind., Journal.....	.....	5,000	.....
Baltimore, Md., News.....	35,000	.....	8
Fort Smith, Ark., News.....	40,000	.....	8
Washington, D. C., Star.....	.....	4,100	.....
Cincinnati, Ohio, Commercial Gazette.....	.....	4,144	.....
St. Louis, Mo., Chronicle.....	.....	4,000	.....
Milwaukee, Wis., Journal.....	.....	4,800	.....
St. Joseph, Mo., Gazette.....	35,000	.....	8
Chattanooga, Tenn., News.....	40,000	.....	8
St. Louis, Mo., Republic.....	.....	4,700	.....
Detroit, Mich., Sun.....	40,000	.....	8
St. Paul, Minn., Pioneer Press.....	.....	4,200	.....
Detroit, Mich., Tribune.....	.....	5,100	.....
Grand Rapids, Mich., Herald.....	.....	4,500	.....
Detroit, Mich., Free Press.....	45,000	.....	8
New Bedford, Conn., Standard.....	.....	4,500	.....
Springfield, Mass., Union.....	.....	4,200	.....
New Haven, Conn., Register.....	.....	4,100	.....
Washington, D. C., Post.....	.....	4,000	.....
Rochester, N. Y., Post and Express.....	.....	4,800	.....
Pittsburg, Pa., Leader.....	.....	4,850	.....
Meriden, Conn., Republican.....	40,000	.....	8

It is interesting here to note phenomenal records as indicating the possibilities of the machine. On June 28, 1895, Mr. G. W. Green, of the *Boston Standard*, set in that office, from printed copy, 13,130 ems of solid agate, 13½ ems measure, in one hour, in the presence of reliable witnesses. The machine was driven at a moderate increase above normal speed. Mr. Green has a record of 8,200 ems per hour for eight hours.

In a public competition in Philadelphia, in the *Times* office, Oct. 3, 1899, W. H. Stubs set and corrected 66,617 ems of nonpareil in six hours, while his competitor William Duffy set 55,026 ems corrected in the same time. It will be seen that the winner's average was slightly in excess of 11,000 per hour.

But it is of more commercial interest to know what has been done under normal conditions, in a well-regulated linotype composing-room, and for this purpose a 20-days' record of work in the office of the *Detroit Free Press* is subjoined. The matter was one-fifth leaded, contained no display heads, and was corrected by the operators:

RECORD IN THOUSANDS OF EMS PER DAY.

Days.....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Rist.....	53	57	59	56	59	55	55	53	59	60	59	52	59	64	57	53	58	62	57	58
Wise	55	62	61	56	56	63	59	60	55	56	63	60	60	55	55	60	51	56	57	57
Forney (Markets and Commel)	64	57	55	54	51	66	53	59	61	54	52	73	65	47	58	59	56	50	61	78
Martin (Commel)	60	48	52	52	52	58	54	48	58	47	67	52	52	54	54	56	56	52	55	54
Salterbach...	54	51	54	52	58	50	48	54	56	51	56	53	55	50	47	50	53	58	55	50
Young	67	51	58	60	67	52	58	56	57	51	71	62	60	52	50	71	57	53	54	58
Averages .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

As compared with typesetting machines proper, that is machines that set and distribute ordinary typefounders' type, the linotype has several enormous advantages.

It entirely does away with the labor of distribution.

It substitutes metal at 5 to 7 cents a pound for type at about 40 cents a pound.

It never runs out of sorts.

It gives a new and sharp face at every operation.

It enables the printer to keep matter standing at a trifling cost.

It is the only real "one-man" machine in existence.

It handles a great variety of sizes and faces in one machine.

In all other machines there is always required either more than one machine in the combination, or more than one operator, and usually both. Linotype results and records are produced by single operatives on single machines, and not by "teams" at double the labor cost, as on typesetting machines.

Linotype machines cost \$3,000 each, or say \$300 a year for interest and repairs. They are also leased at \$500 per year. Every machine is guaranteed as to workmanship, material and capacity to produce 7,500 ems of solid, justified matter per hour. Before the machines were brought to their present high state of efficiency it was supposed that they were only fitted for newspaper work, and they have been put into use by nearly every large newspaper in the world and by hundreds of small papers.

Within the past four or five years, as details have been added, and the variety of faces increased they are being taken into use by book and job printers, and linotype work is now as familiar in the pages of the best magazines and in books of leading publishers as is founders' type. For publications or books of 40,000 circulation or under, the presswork can be done direct from the linotype slugs, thus saving the cost of electrotyping, which would be necessary to save the wear on the type were the work done from foundry type. Where an edition is very large it is practicable to make electrotypes and stereotypes from the slugs the same as from type forms.

The ordinary keyboard contains 90 characters, which are arranged in several different ways for different classes of work.

In machines provided with two-letter matrices 180 characters may be set from the same keyboard. These machines are often termed "Book Office Machines," because italic or black letter for headings, etc., is included in the extra characters thus obtained. For odd or peculiar characters, as on special work, special matrices may be had and kept in sort boxes for introduction to the line by hand, their distribution being automatically effected.

The linotype matter may be rapidly leaded by hand. If all matter from the machine is to be leaded, the mould may be adjusted one size larger than the face, to produce a "shoulder" on the slugs. For example, a 6-point face may be thus produced on a 7-point body, or a 7-point face on an 8-point body.

The machines are used with entire success for mailing lists, lists of stockholders, poll lists and similar lists, which may be set cheaply, changed quickly, and left standing, putting out of use the mere cost of the metal.

Linotype matter may be set in connection with cuts in the same manner as movable type.

Papers having large numbers of small "ads" to set find that there is a great saving effected by the use of the machine, and a number of machines are used for this purpose alone, in some cases setting the first word or line in capitals, and in other cases with TWO-LINE INITIAL LETTERS, which can be speedily done with matrices set into the line by hand.

The machine is specially advantageous for catalogues, directories, etc., as the solid lines may be readily and safely handled. The cost of type and the need of sorts are avoided.

The slugs are made of such height as to be used in connection with ordinary type.

It should be understood that by changing the matrices

and adjusting the mould, any machine produced by the Company can be adapted to produce *any desired face on any desired body*, the line not exceeding five inches in length.

Owing to the facility with which new slugs may be cast and inserted, it has been found, by actual test, that linotype matter containing the same defects may be corrected much more rapidly than when set in ordinary type. *In a test made by William H. Rand, of Rand & McNally, the well known publishers, linotype matter was corrected in twenty-seven minutes, while the same corrections in type occupied one and a half hours.*

All machines are now built on the interchangeable plan, so that any desired part or piece may be procured quickly and cheaply.

The company will send an expert mechanic to erect the machines and set them in operation in the office of the user, charging expenses and wages.

For every variety of work the linotype has proved the superiority of Mergenthaler's plan of substituting the line as a unit in place of Gutenberg's movable type, and this has brought about a revolution in the printing business. The reason why the linotype system is adaptable to so many variations, and accommodates such a broad range of work, is found in the simple mechanical fact that a matrix may be mounted on a body large enough to be handled conveniently in a machine, while the individual types are very difficult to handle mechanically, owing to their small size and the extreme accuracy required of all parts of the machine and the softness of the metal. Take the matter of distribution, for instance, which is so simple on the linotype that the matrices simply slide into place for reuse. In the typesetting machines each type has to be accurately nicked and made to pass through wards whose accuracy is figured down to the thousandth of an inch. The distribution requires careful oversight, as the slightest batter or bit of dirt on a type tends to block the machine. The justification is wholly automatic on the

Mergenthaler linotype system, being effected by the action of simple wedges, while the typesetting machines have resorted to the most complicated and cumbersome devices in trying to get rid of the work of hand justification, and thus far without any commercial success.

In order to run satisfactorily, typesetting machines require to be handled by two or three men at once, constituting a team, while the linotype, in offices where only one machine is used, is cared for entirely by the operative. In large plants it is found best to employ a machinist to keep the machines up to the highest efficiency, and save the time of the keyboard operatives, besides avoiding tinkering with the machines by printers who may not understand them.

The printer should not allow himself to be misled by the persuasive talk of the promoters of "coming machines." These have been coming for the past twenty years, and the printers who waited for them have grown poor while the linotype users have grown rich. The linotype is the only machine that has come to stay. Those typesetting machines that were sold to some extent during the past fifteen years are no longer offered to the public, and second-hand ones go begging at one-tenth the cost of the linotype, while linotypes continue to be sold at the rate of about seventy-five machines a month.

These are facts and not froth. The linotype system is the only system of mechanical composition that ever really saved the printer any money. It saves because, having overcome the complications and irregularities of the earlier machines, and being perfected in its details, the product is composition of real commercial every day value, obtained at a minimum cost. It has introduced new features and methods into the composing-room, and it has overcome all the prejudices and conservatism that at first hindered its introduction. It saves money, and saves it where the printer needs it most, in the composing-room, for that has been a sink hole of loss with most printeries. Now that so many book and job printers

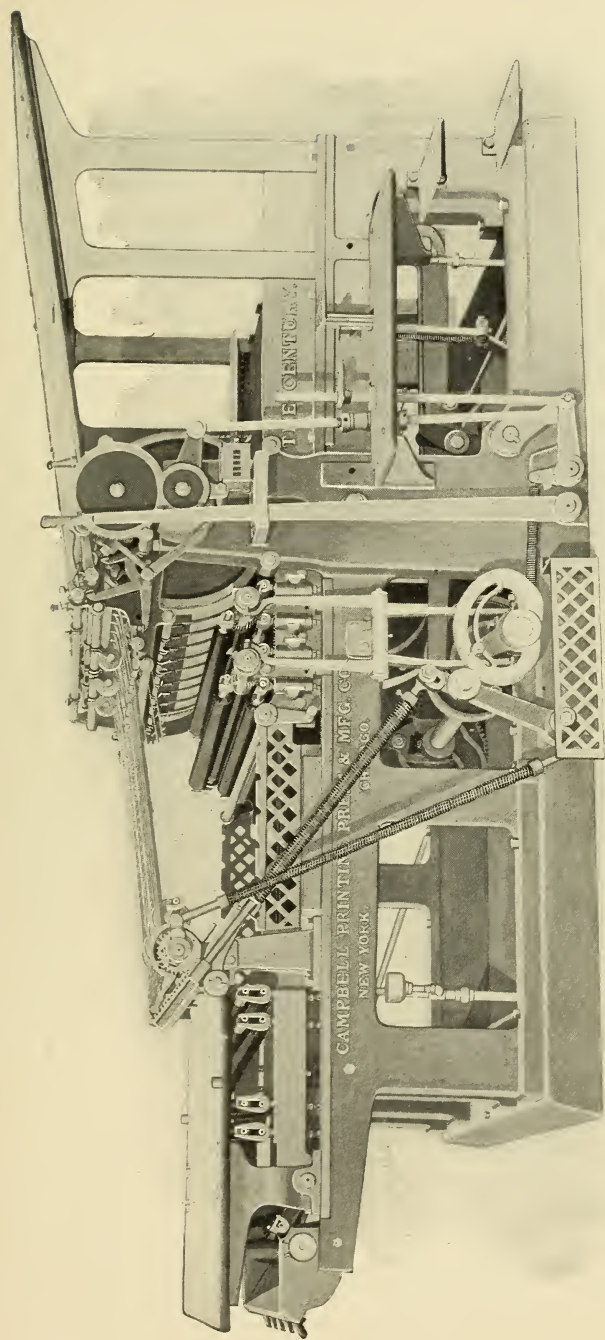
are using the machines, they are not only getting all the composition there is going, but the presswork also, and the printer who defers putting in linotype machines finds out that his work is drifting away to those who do it by modern methods.

The offices of the Mergenthaler Linotype Co. are in the Tribune Building, New York City. The moral to the man who desires to know "How to Make Money in the Printing Business" is obvious—buy linotypes.

AN EXPERT OPINION REGARDING "CENTURY" PRESSES.

I HAVE been asked as an expert mechanic and as a printer to give my opinion upon the "Century" press, and to define the precise position which this press occupies with respect to the modern requirements of printing.

In a survey of the advance made during the past ten years in printing presses for the better class of work, two improvements stand out as distinct strides in the construction of machinery. One, the invention of a device to secure a continuous gearing of the bed with the cylinder in a two-revolution press, I believe to be the most valuable contribution that the printer has received from the inventor in the past decade. By reason of this device wherever used the average of quality in the work produced has moved forward at a bound. Not only has the gain been in securing an exact registration, which was theretofore impossible, but in ridding printing forms of the wiping action which they must suffer from a cylinder which is not rigidly geared up with the bed upon which they are borne.



The "Century"

Courtesy of the Campbell Co.

In this latter connection, I have recently seen the last impressions of a run of 750,000 *from one set of plates*, and when compared with the first impressions hardly a trace of wear was discernible. Had I not known that the machine upon which the plates were used was built with continuous register gearing I could not have believed such a result possible, for I have never before seen plates of the same character stand up for more than 200,000 impressions.

In the particular machine in point (a "Century" press with a bed 39x53 inches), each side of the bed was geared to its corresponding end of the cylinder, a fact which I observed made a complete squaring between the bed and cylinder. Whether it was due to this, or to the easy swing of the new reciprocating device used, I do not know, but the bed travelled in such a swift and quiet manner that my hand upon the frame could scarcely detect the moment of reverse.

The other point, and the second of the two which I consider the principal improvements made in presses within recent years, relates to the new method of obtaining and maintaining a powerful and *absolutely precise* degree of impression, which, also, Mr. Wood has contrived and embodied, with his continuous register gearing, in the "Century" Press. Mr. Wood's arrangement consists in first putting down a center stay, beneath the bed, which is several times stiffer than any heretofore used, and in bringing about the uprights which support the cylinder the principal mass of the side frames. He constructs the cylinder upon a new plan of internal webbing and with cylinder journals whose strength is approximately 30 per cent. greater than that employed in any other method of press construction. Having secured the highest degree of rigidity in the various parts an ingenious arrangement of

eccentric raising-and-lowering mechanism controls the cylinder journals, by reason of which, at each impression, the cylinder may be brought to a positive point, which is not open to variance, where it will remain throughout the varying strains incident to the working of a mixed form of type without yielding its position even to the thickness of a tissue; thus the usual difficulty experienced with two-revolution presses, which arises from the cylinder not coming down with exactness to the same position for successive impressions, is entirely eliminated, and a fixedness and certainty of impress is secured instead.

And further than this has Mr. Wood gone in his novel conception that the proper normal position for a cylinder journal is against the *top* of its bearing and *not* against the bottom as is the case in all other machines. In this he is certainly right, for whenever, as in other machines, a cylinder is called upon to impress the type beneath it, it must first be *lifted* in its bearings until its journals bear against their upper sides before a pressure of more than the weight of the cylinder can be brought to bear in the act of printing. Thus it is necessary for each row of pages as it passes beneath the cylinder to lift the cylinder until all the lost motion in the upper part of its bearings is taken up, which is a decided mechanical fault that not only is injurious to the front edge of the pages which must do the lifting, but also to the back edge of the pages as well from off which the cylinder rolls as it drops in the margin behind. By Mr. Wood's arrangement the cylinder, contrary to all other practice, is so supported that the journals are *always* against the *upper* part of their bearings; so, there being no lost motion above the cylinder journals, the pages are not called upon to lift the cylinder, for the lifting has

already been mechanically accomplished, and thus is overcome the usual tendency of the cylinder to drop in the margins—a fault that causes more damage to plates and type than perhaps any other that may be attributed to a printing machine.

In many other ways the “Century” press represents the highest development that press-building has yet attained, but in this paper I have endeavored to illustrate only what I consider to be the chief additions that the past decade has brought to the two-revolution press, and will leave the rest to a future paper with the closing remark that with respect to other problems as well Mr. Wood has shown himself to be the most virile inventor that has worked for the printing industry in the present generation, and any machine that bears the stamp of his genius may be accepted as the very best that can be devised.

(Signed) CHAS. H. COCHRANE.

MAKING A PROFIT ON SMALL WORK.

PROBABLY every job printer at one time or another has been astonished at the low figure some competitor has made on an order of envelopes, cards, circulars, etc., and has regarded such competitor as a reckless price-cutter, or as having made a mistake in figuring. The conclusion should not be reached too hastily, for it may be only a case of having improved machinery, which reduces cost to such a degree that the happy possessor of the machine is making a good thing at prices that would ruin a user of older styles of presses. Take for instance an order of

100,000 No. 6 envelopes. *A* has Gordon presses, run by power, with cheap boy labor to do the feeding. He figures that he can do the 100,000 in ten days on an eighth medium, and that the time of the boy and press will yield him a close profit at \$50, so he makes his estimate on that basis. *B* has a pony cylinder, and figures that he can put on a duplicate form with a feeder at each side of the cylinder, and by speeding up the machine, can put the job through in three days' time at a cost, including all charges, of \$30 for the presswork. *C* has a Harris automatic press that feeds itself, and will turn out the entire job in one day of nine hours, at a shop cost of only \$6, and involve \$5 less waste of stock on the job. What wonder then, that *A* should look with horror upon *B*'s price, and that *B* should view with equal horror the estimate of *C*, who has perhaps charged \$25 for the presswork, and taken the job, making more than *B* could have made had he charged \$45 for the presswork, or *A* had he charged \$70. Yet, *C* should not be criticised for cutting prices. He has simply shown that he is an up-to-date man, who has abandoned old methods in favor of the new.

Or, suppose that it is a job of circulars, 6 x 9 inches, also 100,000 impressions. *A* with his Gordons can make no better price than on the envelopes, and must charge at least \$50 for the presswork to clear himself on the job. *B* makes a price this way:

Eight electrotypes plates at 80 cents,	\$6 40
12,500 impressions on a cylinder at \$1,	12 50
Make-ready,	1 50
Spoilage of paper,	1 00
Total	\$21 40

C simply makes two electros for his Harris automatic press, and runs the job off with a hand feeder in two days, making his price this way:

Two curved electros at \$1 each,	\$2 00
Make-ready and two days' time of press,	12 00
Total	\$14 00

Again it is more than plain that *C* can take the job away from either *A* or *B*, and yet make a great deal more money on it.

Suppose another case of a lot of small jobs to be done: Call it four lots of envelopes of 1,000, 2,000, 2,500 and 4,000 respectively; one 5,000 run of billheads; one 20,000 run of cards; one 15,000 run of tags; and 2,000 circulars. The time on a Gordon would be fully 14 hours for the envelopes; 7 hours for the billheads; 8 hours for the cards (four on); 18 hours for the tags, and 3 hours for the circulars, a total of 50 hours, at a cost of \$25 for the press-work. A Harris press would do the four lots of envelopes in two hours, the actual running time being less than an hour; an hour and a half would perhaps be taken for the billheads, by hand feed; two and a half hours for the 20,000 cards, with automatic feed; two hours for the tags, and half an hour for the circulars, a total of eight and a half hours, or call it a day, at a cost of \$6, which cost is but 25 per cent. of what it would be on the Gordons.

As the Harris press takes a quarter sheet of $22\frac{1}{2} \times 28\frac{1}{2}$ inches card or tag board and prints the same at the rate of 10,000 or 12,000 impressions per hour, cylinder presses running a full sheet "four on," would have to be credited with the three extra plates, imposition and make-ready at no cost whatever, and be run at a maintained speed of 3,400 per hour to equal the economy of the Harris.

Where there are numerous changes of forms to be made on a job, the Harris automatic press gives as much advantage over other machines as it does in the cases of the long and short runs noted. A record of 50,000 impressions per day has been made where the work included 250 changes of the form. In such work the man with the Gordon or the pony cylinder is again distanced.

Not only does the Harris press with the automatic feed admit of a speed ten or twelve times as great as that of a platen jobber, but it reduces the waste of stock ninety per cent., and permits make-ready in about half the time.

The press is made in two sizes, 12x12 and 15x18 inches, and being adapted to use either curved electros or stereos, or type boxes, or a combination of type and plates, it becomes practical for a great variety of work. For envelopes and cards it has an automatic feed, and may be run at from 10,000 to 15,000 impressions an hour. Paper has to be hand fed, and then the speed is from 3,000 to 5,000 an hour, according to the ability of the feeder. The reason why a hand feeder can supply the sheets at such speeds is that the stock has to be moved only a few inches, that the front register is automatic, and because no offset or damage can result when he misses a sheet.

The speed with which make-ready is done is owing partly to the accessibility of the tympan cylinder, but more to the fact that in printing from a small cylindrical surface only a line at a time touches the paper, requiring such a trifling pressure that no make-ready is required to take up the spring of the metal parts of the machine, as in a platen press. The plates are also clamped in such a way that underlaying can be done very expeditiously. No difficulty is experienced in securing curved electrotype and stereotype plates for the Harris press, as an inexpensive stereotyping apparatus can be supplied to users in country places, and in the cities any electrotyper can supply curved electros by the use of a bender supplied by the makers of the Harris press.

The Harris automatic press costs less to buy than a cylinder press and occupies much less floor space. It will turn out twice as much work as can be had from a number of Gordons involving the same price of purchase, and it can be run by one man. It does not feed paper from the web, but feeds envelopes and cards automatically from the bottom of the pile, so that more can be laid on without stopping the machine. When running at a 14,000 an hour speed, the attendant is kept busy supplying piles of stock and taking away the printed work and packing it. In fact, the machine turns out work so fast that the only complaint of users is that they cannot get enough

work to keep it busy. But the press will pay for itself over and over even when there is not work to keep it going half the time.

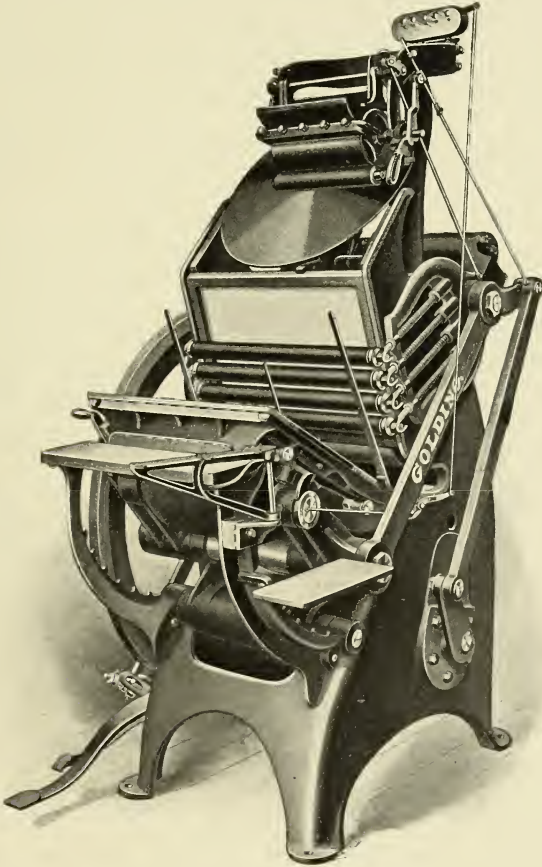
Nothing will build up the work of an office faster than the introduction of such a machine. In a little while merchants learn that in that office they can get small work in great quantity in a very short time, and that the quality of the printing is uniformly good, and the count full. These are advantages enough, and it is not necessary for the owner of a Harris automatic press to shave prices materially to get work for it. The profits made by the efficiency of the machine are rightly his for his enterprise in being prompt to purchase a labor-saving machine.

THE GOLDING JOBBER—*NE PLUS ULTRA*.

EVERY printer ought to know whether there is one job press better than others—one that will save him or earn him \$50 or \$100 more than some other press in a given time—but unfortunately for the craft thousands upon thousands are still using job presses that are cheap or slow, because they have never taken the pains to investigate carefully and learn what can be proven to a mathematical certainty, that the Golding Jobber is in a marked degree the best and also the quickest operating of any in the world.

The long row of Golding presses that may be seen in the Lotus Press, New York, is an evidence of the esteem in which they are held in that printery, and scores of other offices might be named where only Golding job presses are used or would be installed. It will pay any printer to throw out all his jobbers of the Gordon type and to get rid of all those of the cylinder-distribution type, and to buy Golding Jobbers in their places, because

he can get 2,000 to 3,000 more impressions per day from the latter, as shown by actual experience. Just think what this means: 2,000 impressions at the minimum cost



The Golding Jobber

Courtesy of Golding & Co.

of 50 cents per 1,000 is \$1.00 a day greater possibility, or a product that may be \$300 better in a year than on inferior machines. The Golding can be run faster than any other press ever built, and will stand thirty to fifty per

cent. more speed without deterioration, because of these absolute mechanical advantages:

1.—The main frame is all of one single casting and not made up of parts bolted together. In other presses the bearings get out of line, the corners of the press settling with the unevenness of the floor.

2.—The quick return of the platen allows a quarter to a third more time for feeding the sheet than on any other press.

These two features alone make the Golding press invaluable as compared with others. It will stand being run faster, and the feeder has the time to do faster work. We have letters by the hundred showing that printers run Goldings day in and day out at 2,000 to 3,000 impressions an hour. Do you get any such results from your Gordons?

As compared with the cylinder-distribution type of job presses, which are admittedly slow, but do work superior to the Gordon, the Golding can demonstrate that it is as strong as the strongest, and that it gives better ink distribution—mind you, not “as good,” but better—than any of them, and at twice the speed. The average printer knows that the Gordon style of job press is designed to be simple, cheap and quick, and that the cylinder-distribution press was designed to give the quality of printing of a rack-and-screw-distribution cylinder press, at a sacrifice of the Gordon's speed. The Golding press was especially designed to give *both* speed and quality, and it gives more of both than the other machines, besides having numerous minor conveniences all its own. Ink distribution is maintained at little friction by retaining the ink disk. The quality of this distribution is kept up to

the high standard required for the best modern printing, by a peculiar fountain, having a cylinder of large diameter on which the ink is spread finely and then transferred in a distributed condition to the disk. This gives excellent results, but the story is only half told, for the Golding has another ink distributing surface *below* the type bed. The form rollers run on to this on the down stroke, and receive a new coating of ink, so that when they return across the form there is almost the result of double rolling.

We have only outlined the larger advantages and improvements in the Golding Jobber; but the presses are full of good points unknown to other machines. The platen is so hinged, and so pulled up against the bed and squeezed, that there is no chance or possibility of slip or slur, no matter whether the form is in or out of center.

In the average printing office where Gordons are run the boys usually waste half an hour a day per machine fiddling with the impression screws, or if they do not it is because there is a rule enforced that they must leave them alone and depend on the bearers to balance the impression. These bearers take up room in the chase and reduce the capacity of a half medium to a quarto, or a quarto to an eighth. On the Golding the whole nuisance is avoided. There are no impression screws, but slides under the platen like those of a Hempel quoin, and a little finger-screw at one side sets the whole platen in or out with a twist or two, in such a way that it cannot get out of square.

The chase of a Golding may be filled full of the heaviest sort of matter and the whole of the form will be properly inked and bear a proper impression; further, a single line may be worked at the bottom of the chase without

slurring. Under all conditions the Golding disk distribution press is the least destructive of rollers. With several rollers running constantly and three others intermittently, upon a cylinder, heat is produced by friction in proportion to the stiffness of ink used, and to speed. The greater the heat, the sooner the rollers lose their surface or become melted. A disk press presents no such obstacle. The disk distribution press, as typified by the Golding Jobber, affords facilities for the regulation of the ink supply by the operator standing at the front of the press. This cannot be done on a press with cylindrical distribution.

The printer who realizes that he is not making what he should from his job pressroom is invited to write at once to Golding & Co., 177-199 Fort Hill Square, Boston, or to the branch offices in New York, Philadelphia and Chicago, and learn the terms on which he can apply a remedy that will increase his output 20 per cent.

Golding & Co. also build two "Art Jobbers," and a light job press called the "Pearl," Fairhaven cylinder presses, paper cutters, chases and small tools generally for the printery, besides furniture of all descriptions. They furnish complete outfits for the printer and are always glad to make up estimates. They have earned an enviable reputation for carrying good goods and dealing fairly with everybody.

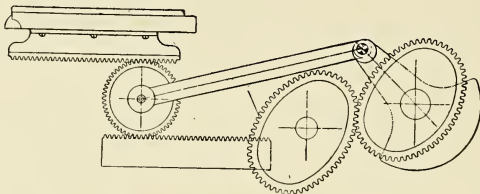
WHY NOT MAKE MONEY BY BUYING A PRESS THAT WILL LAST A LIFETIME?

THE Whitlock presses are the greatest money-makers ever placed in a printing office, and one reason for this is that they will outwear anything else in a printing plant. When purchasing a press the printer requires to disregard all "pretty" talk and assertion, and to get down to the bald iron and steel that he is buying. He wants the best combination of these, and he wastes his money if he buys any other.

In considering the Whitlock press we can afford to discuss the mechanical details, because we know we have the best construction, and that we can prove it to the printer who will give close attention.

A human crank is not always a good thing, but in machinery the crank is an ideal motion. In steam engines, locomotives, and other high-speed machines nothing was ever found so good as the simple crank for converting reciprocal (that is back-and-forth) motion into rotary motion. In a printing press, manufacturers have to contend with much the same problem as in the steam engine, because the motion of the cylinder is rotary and of the bed reciprocal, and these must work together in unison. All cylinder press builders would undoubtedly use a simple crank motion for the bed, as in the steam engine, if they were not prevented by the fact that this requires an uneven speed of the cylinder, and that means a slow press. So they have to resort to compromises, and hence the numerous bed-motions of cylinder presses.

It is because the Whitlock has the most simple, durable and accurate of these substitutes for the crank that it is the most durable and reliable of the two-revolution



Whitlock Bed Motion.

presses on the market. The bed-motion as here illustrated is virtually the crank movement of the

stop cylinder modified by elliptical gears, which adapt it to high speeds. It will be remembered that in its time the stop cylinder was the press of all presses for fine work and sure register, and that its only fault was its slowness. Now that the Whitlock has so modified and improved the bed-motion of the stop cylinder that it can be used on a two-revolution high speed press, there simply remains nothing more to be desired in this direction—the *ne plus ultra* is reached.

Other presses may run fast, may give good register, good inking, etc., but as sure as iron is iron no one of them will continue to give these good results for many years without rebuilding, because of the trappy, complicated bed motions, whereas in the Whitlock we have a motion so fundamentally simple that it can be run indefinitely like the crank of the steam engine, and will work satisfactorily after years and years of hard wear.

Because of this sure and simple bed-movement the Whitlock presses do not lose ability to register accurately, and the jars of reversal are absorbed in the heavy parts of the machine, and do not tend to rattle it to pieces. The Whitlock presses will stand more over-speeding and hard usage than any other two-revolution presses built.

They are made to stand abuse, and no master printer can tell when he buys a press how much abuse it will be subjected to by his workmen.

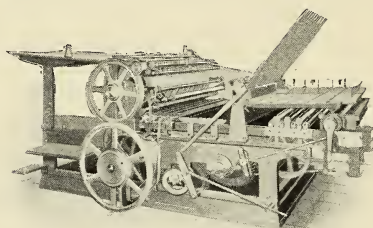
The tipping ink fountain of the Whitlock being more adjustable than any other made, it is not necessary to fill the fountain for short runs of special inks, as it will use up the ink to the last half pound without allowing the sheets to run light in color. This saves time in pushing down ink, and waste of stock as well as ink, and is not to be found on any competing machine. The ductor roll deposits the ink on the first vibrator, instead of on the table, so that the ink reaches the plate in a distributed condition.

The roller construction is strictly up-to-date, all angle rollers being gear-driven, and rollers being interchangeable, so that worn form rollers may be used as distributors.

The impression is very rigid and even. Four full-length and very wide steel-faced tracks, supported by very heavy arched girders, and supplied with many more than the usual number of steel friction rollers (which run free and uncontrolled like a ball-bearing) support the bed. The cylinder and type-bed are cast heavier and are supported by stronger arms, journals, etc., than is usual on other makes of presses, and to spring either bed or cylinder is impossible. The box-like construction of the bed is new and patented, and insures double the stiffness of the ordinary construction. Instead of being made of open ribbed work on the under side, the lower portion is all closed in with solid metal, the weight being lightened by box-like cavities, opening at the sides. Thus a result is obtained that makes the bed practically as strong against springing as if it were of solid metal throughout the thickness.

Both impression trip and back-up are supplied, a combination not found in some other presses claimed to be first-class. The air-springs are connected, so that a single adjustment at either end of press sets both springs at once, saving time and insuring the proper resistance in reversing the bed.

The cylinder of the Whitlock is 15 to 20 per cent. larger than on competing machines, thus reducing the



Whitlock Press.

wear on plates and type. Notwithstanding the larger cylinder and greater curve for reversal of the bed, the Whitlock is positively a shorter, narrower and lower

machine for size of form, than any other make in the market, owing to simplicity of design and structure. This means less floor space, less power, less shock in reversing the bed, and consequent greater speed and durability, besides some economy in time in working around a smaller machine.

Flyless and tapeless "printed-side-up" front delivery is supplied in place of the fly when desired. The press is also fitted with all the latest conveniences in the way of handling rollers, adjusting tympan, etc. There is no desirable feature on any other two-revolution press that is not found as good or better on the Whitlock machine, and it has many little devices—time-saving devices—not found on any other press.

In the Whitlock shops is a machine especially designed for testing each press made for exactness of register and

positive absence of slur. This machine they control, and no other manufacturer has the means of applying any such careful tests. When you buy a Whitlock you know the machine will be in perfect running order the moment it is put together on your floor. How many printers have suffered losses from the presses that had to be tinkered with for weeks or months after starting before they were in correct working condition?

Write for descriptive catalogue.

Manufactured by the Whitlock Printing Press Manufacturing Company. Sales offices—New York, 121 Times Building; Boston, 10 Mason Building; Chicago, 706 Fisher Building; Works, Derby, Conn.

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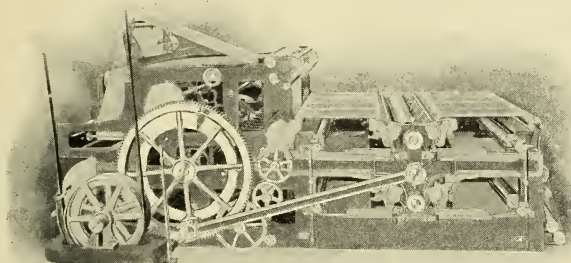
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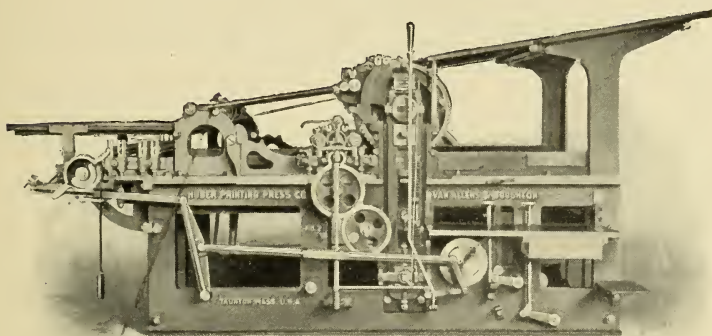
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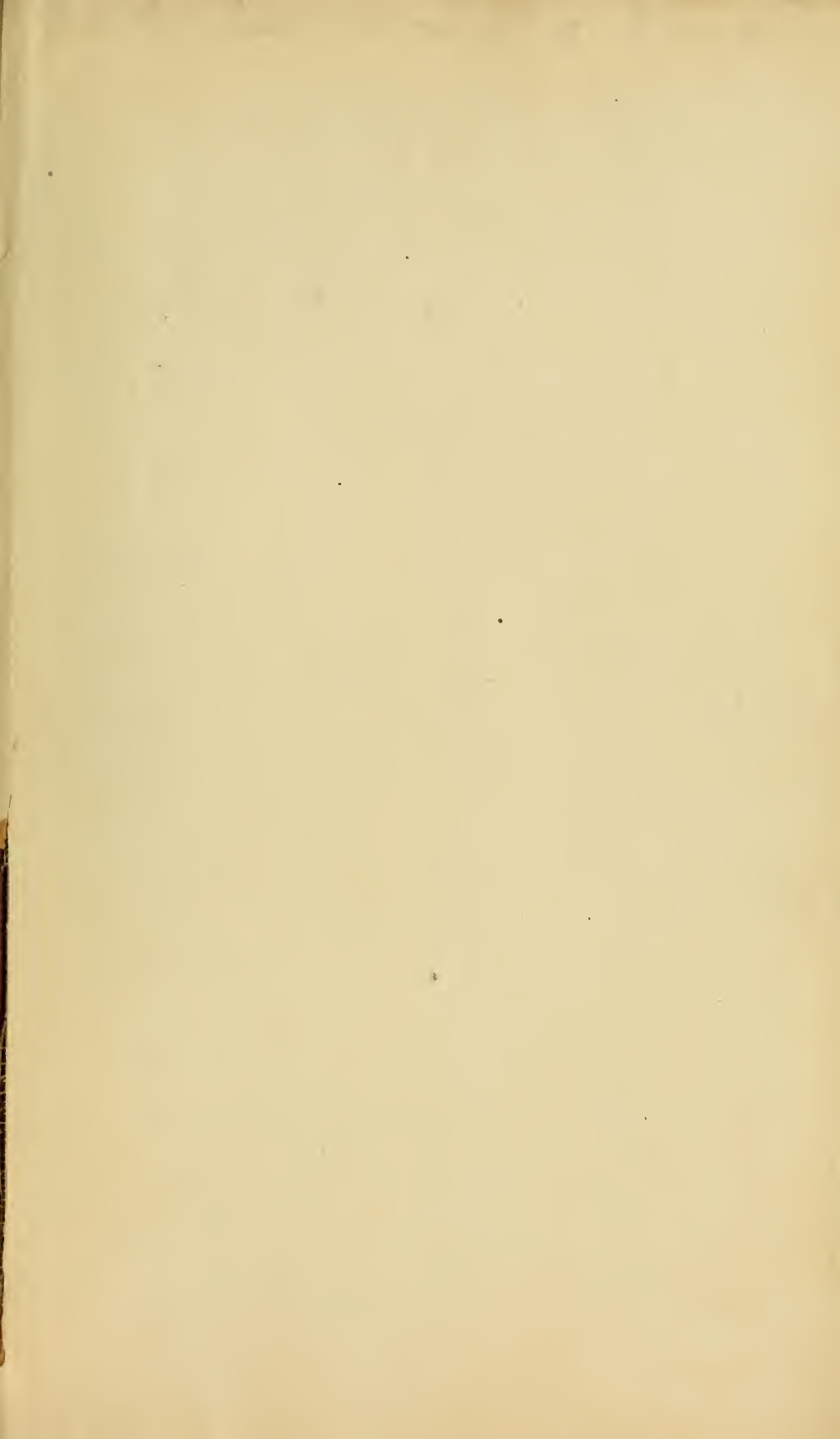
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